



# AGRICULTURAL OUTLOOK

December 1988

Economic Research Service  
United States Department of Agriculture

GATT Talks at  
Midpoint  
Page 33

# AGRICULTURAL OUTLOOK

December 1988/AO 148

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Economics Editor—Clark Edwards (202) 786-3313

Associate Editor—Diane Decker (202) 786-3313

Managing Editor—Patricia F. Singer (202) 786-1494

Editorial Staff—Shirley Hammond

Statistical Coordinator—Ann Duncan (202) 786-3313

Design Coordinator—Carolyn Riley

Production Staff—Karen Sayre, Tracy Fleck

Composition—Joyce Bailey

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*The following copy was inadvertently omitted from page 35 of the December Agricultural Outlook.*

Negotiating efforts center on ironing out differences and highlighting common elements of the proposals. The three critical areas of difference among them are the degree to which policies affecting trade will be reduced, the mechanism for changing these policies, and whether reform should be achieved in the short or the long term.

***Some Proposals Focus on Long Run,  
Some on Short Run***

The United States has proposed complete elimination of all policies with adverse trade effects, over a 10-year period. The U.S. proposal is directed toward a long-term solution of agricultural trade problems and is the only one that did not originally include short-term measures (see the accompanying spreadsheet on the six proposals).

The U.S. proposal calls for countries to submit national plans for implementing agreed-upon reductions in trade-affecting policies; these plans would be formally bound in the GATT. Farm income proposals not affecting production and trade (such as those involving "decoupled" payments) would be allowed. So would bona fide food aid programs.

Recently, U.S. negotiators elaborated on the original proposal by calling for a short-term freeze on all agricultural subsidies and trade barriers over the next 2 years if an agreement is in place to implement long-term reforms. The freeze would apply while the details of the long-term reform process are worked out in 1989 and 1990.

The EC proposes quick action to reduce surpluses of dairy, sugar, and grain, three of the most heavily subsidized commodities worldwide. The EC also favors longer term reforms to reduce government support, but seeks to preserve the features of the EC's Common Agricultural Policy, such as the variable levy and export subsidies. The EC, Japanese, Canadian, Cairns Group, and Nordic proposals call for immediate short-term action to address agricultural trade problems without necessarily having an agreement on long-term reform.



# In Brief . . .

## News of Farm Credit, Soviet Trade, GATT Proposals

**Moderating growth** may allow the general economic expansion to continue past 1989. Fewer new jobs, relatively flat retail sales, and slower industrial output point to a slowing economy. However, the expansion is supported by continued improvement in the net export deficit, which likely will induce businesses to invest further in new plants and equipment.

Continued rising consumer income should support domestic demand for agricultural products. Interest rates paid by farmers are not likely to change very much.

Cash receipts for livestock for 1988 are 2-3 percent above a year earlier. Record quantities of meat and poultry products are being marketed during the second half of 1988, but strong consumer demand is keeping prices generally above a year earlier. Livestock product prices are expected to remain strong into 1989 despite continued large supplies.

Farmers' cash receipts for crops are 8 percent above a year earlier, thanks to strong prices and large marketings from past years' inventories. Wheat, corn, and soybeans have led the gain in cash receipts. Reduced U.S. yields pulled down world output of these three crops, despite increased foreign production.

**U.S. potato production** is estimated down 8 percent in 1988. With continued strong export demand for frozen potatoes (mostly french fries to Japan), the season average price could be up one-third from 1987/88's \$4.47 per cwt.



U.S. aquacultural output is growing rapidly, led by catfish, crawfish, and salmon. Together, output of these three products has grown more than 25 percent per year during the 1980's. Per capita consumption of all fisheries products is up to about 20 pounds per year; of this, 2-3 pounds are produced by aquaculture.

Rising input prices will push up production costs in 1989. Fertilizer prices are projected to advance as much as 9 percent. Corn, which uses more fertilizer than most other major crops, will show an 8-percent rise in variable costs per acre; costs for rice, which uses less fertilizer, will increase only about half as much.

During January-September, the United States shipped 20 percent of its wheat exports to the USSR, 12 percent of its corn, and 8 percent of its soybeans. High prices for grains and oilseeds and low prices for petroleum (the Soviets' major export) have worsened the terms of trade for the Soviets, giving them cause to seek more self-sufficiency in agriculture.

Agriculture is high on the agenda for the upcoming midterm review of the current round of GATT negotiations. Proposals to be dealt with during the remaining 2 years of this round range from complete liberalization of agricultural trade to limited policy changes for particular commodities in specified countries.

High price supports and growing surpluses have driven up the cost of EC agricultural programs. The budget problems were worsened by the relatively low U.S. dollar, but they are being eased by higher commodity prices since this summer. Policy reforms now under way aim at limiting the growth rate of farm program costs while ensuring enough revenue expansion to cover future program costs.

The large paydown in farm debt from the troubled mid-1980's appears to be over, and loan volumes for commercial banks and the Farm Credit System are increasing again. Except for the Farmers Home Administration, major farm lenders report stronger loan portfolios in 1988, and reductions in farm loan delinquencies, loan charge-offs, and foreclosures. However, some farmers are still under severe financial stress.

Despite earlier fears that drought-induced food shortages would drive prices sharply higher this year, the rise in the Consumer Price Index for food is expected to average about the same as 1987's 4.1 percent. Prices for a number of foods rose sharply during the third quarter; part of the rise was due to strong consumer demand for meats.





## Agricultural Economy

Farming well does not always result in a farm's doing well. Farm income is determined in part by events over which a farmer has no control. One prominent example this year is the weather; its effects on U.S. farmers have been considerable.

How much of a farmer's income depends on decisions made by others, such as other farmers, businesses, consumers, governments, and people in other countries? The answer is, quite a bit.

Farmers purchase most of their inputs and sell most of their production. This makes them dependent on the economic decisions of others. And the opening of export markets over the last two decades makes farms more dependent on public and private decisions made around the world. Farms nowadays are far from self-sufficient.

Barge, rail, and truck transportation that moves inputs to the farm and products to market relies heavily on help from State and Federal governments. This summer, when barge traffic came to a standstill on the Mississippi, the Army Corps of Engineers helped keep products moving by dredging the river. One result was that prices at the farm were higher and prices at ports were lower than they would have been if the river had stayed unnavigable.

The USSR's decision to increase the protein content of livestock feed by importing more soybean meal expands markets for U.S. soybean farmers. But decisions by South American soybean farmers to increase plantings after the U.S. drought keep prices from rising as much as they would have.

Decisions by governments to promote exports and control imports through trade regulations, tariffs, quotas, subsidies, embargoes, and other border policies have made world trade a labyrinth. If the GATT negotiations now under way cut some of the tangle, the markets for farm products will change.

Easy money policies by the Government keep the cost of borrowing lower and, by keeping exchange rates lower, expand the market for farm products. But they do so at the risk of faster inflation.

Other credit policies directly or indirectly affect farm income, such as special loan provisions for agriculture, including a new credit institution known as Farmer Mac. Farmer Mac deals in securities backed by farmland and is expected to reduce farmers' credit costs.

Prices received by farmers are affected by price support programs, marketing orders, contracts, and other arrangements between farmers and public or private agencies. Early this summer farmers made what appeared to be favorable price contracts for their crops, but those contract prices looked low after the drought hit and prices shot up. Market news services help farmers keep abreast of price changes and choose the best time to sell.

Farmers often take for granted institutional arrangements affecting their incomes, including the availability of resources such as grazing rights or irrigation water, utilities such as electricity, public schools for their children, public research on new technology, private property rights, and even such amenities as clean air and a million-dollar view.

That is, until the rules start to change, through new zoning proposals or prospective enactment of regulations to protect the environment. During such conflicts it becomes clear that some farmers gain and others lose from changes in these institutional rules.

In her book *The Fragility of Goodness*, Martha Nussbaum likens a human being to a young and growing plant in need of food and care. The plant needs more than to be of good seed. It also needs sunshine, gentle dew and rain, absence of frost and harsh wind, and the care of a concerned farmer. Similarly, a farmer needs a fostering natural and social environment in which to prosper.

A farmer's success depends on his or her choices and actions. Yet circumstances may force producers to a position in which they cannot help losing money. On the other hand, circumstances may bring windfall gains. An event that simply happens may, without their consent, alter farmers' lives.

This is not to say the farmer is passive; success depends on plans made and actions taken, on the availability of resources and management. The problem is one of balance; how much outside influence does a farmer need or want? Producers can't make it by being completely self-contained, nor by putting all their trust in neighbors and country.

Failure of farmers through laziness or bad management only makes them more dependent on others. But successful farm managers' plans allow for contingencies. They balance how much the farmers are protected against events not under their control, and how much they rely on their own and their families' resourcefulness. [Clark Edwards (202) 786-3313]

## LIVESTOCK OVERVIEW

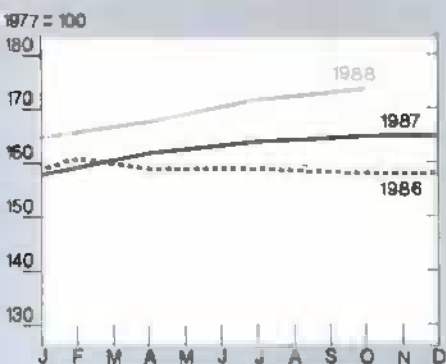
Strong consumer demand during the second half of 1988 allowed record quantities of meat and dairy products to be marketed at generally higher prices. Economic growth in 1989 probably will mean continued price strength despite large supplies.

Even though third-quarter growth in the Gross National Product was the smallest in six quarters, the economy is still expanding. Disposable income is rising more rapidly than in recent years, inflation is moderate, and the unemployment rate is the lowest since the seventies.

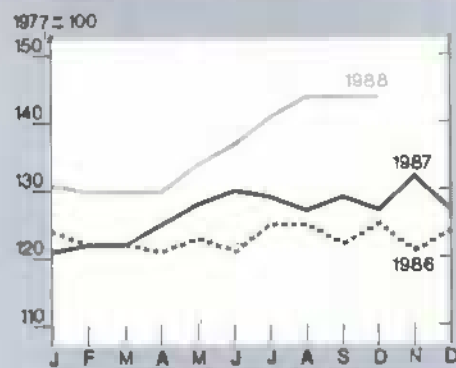
Pork production during the second half of 1988 is well above a year ago, pushing hog prices below 1987. However,

# Prime Indicators of the U.S. Agricultural Economy

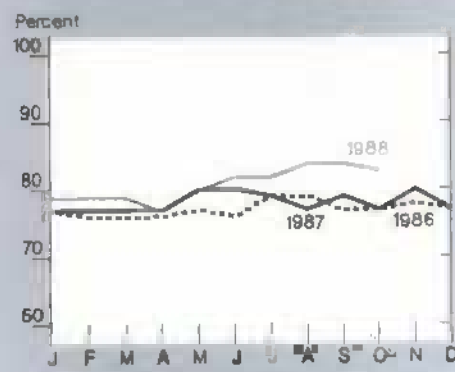
Index of prices paid by farmers<sup>1</sup>



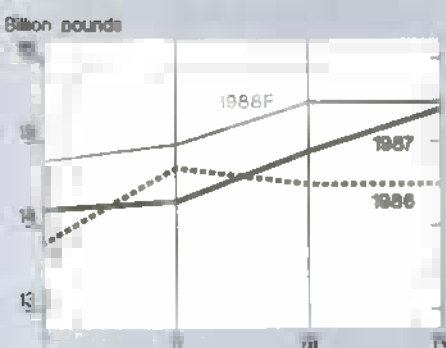
Index of prices received by farmers<sup>2</sup>



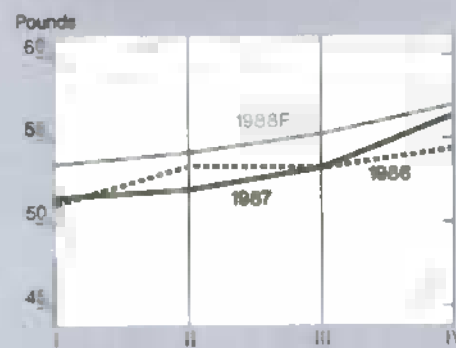
Ratio of prices received to prices paid



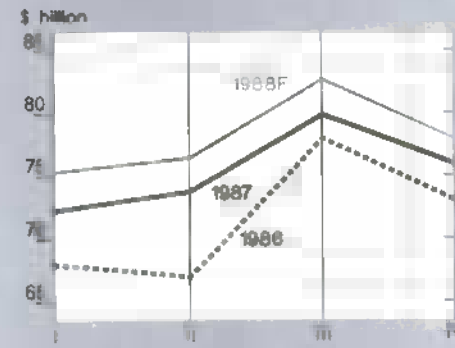
Red meat & poultry<sup>3</sup>  
production



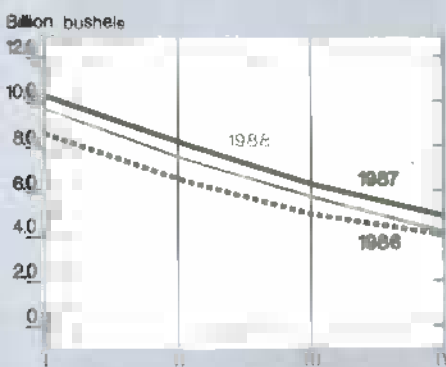
Red meat & poultry  
consumption, per capita<sup>3,4</sup>



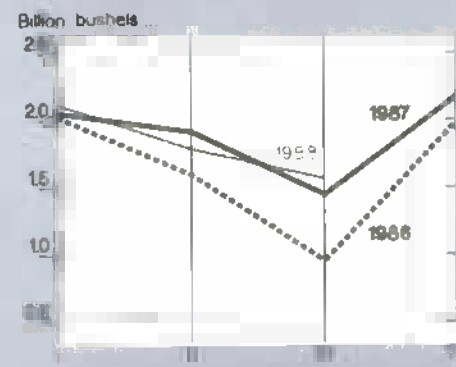
Cash receipts from  
livestock & products<sup>5</sup>



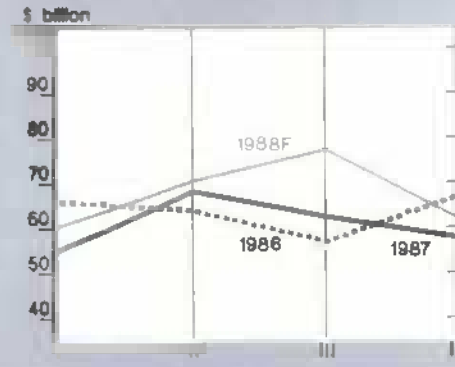
Corn beginning stocks<sup>6</sup>



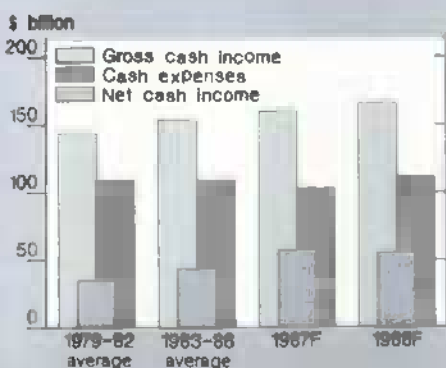
Corn disappearance<sup>6</sup>



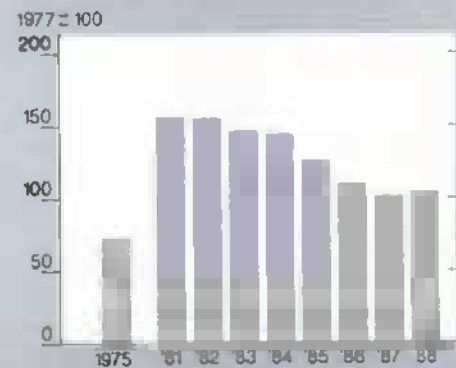
Cash receipts from crops<sup>5</sup>



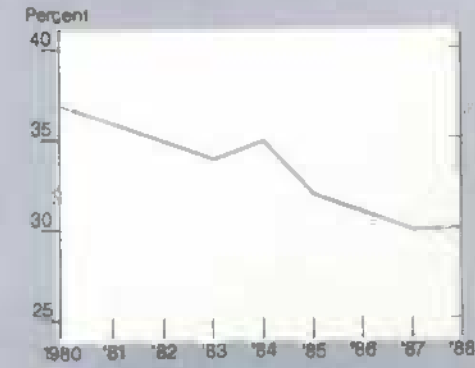
Farm net cash income



Farm real estate values



Farm value/retail food costs



<sup>1</sup>For commodities and services interest, taxes, and wages. Beginning in 1986, data are only available quarterly. <sup>2</sup>For all farm products.

<sup>3</sup>Calendar quarters. Future quarters are forecasts for livestock, corn, and cash receipts. <sup>4</sup>Retail weight. <sup>5</sup>Seasonally adjusted annual rate.

<sup>6</sup>I = Dec.-Feb.; II = Mar.-May; III = June-Aug.; IV = Sept.-Nov. F = forecast.

December 1988

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prices for other livestock and dairy products are up despite large supplies. More broilers than a year ago and about the same amount of turkey will be sold, even though prices are higher. Beef output is below a year ago, and prices are strong.

Commercial disappearance of dairy products is greater than last year, although prices have jumped since midyear. Strong domestic demand is augmented by export demand for nonfat dry milk.

### **Feeder Cattle Supplies Low**

Feeder cattle outside feedlots on October 1 were 1 percent below a year earlier and 9 percent below 1986. This was the smallest October 1 supply since the statistical series began in 1973. Next year's calf crop is expected to be about the same as a year earlier; the 1987 and 1988 calf crops were the lowest since 1961.

Forage uncertainties likely delayed herd expansion for another year. Increased heifer retention should further reduce feeder cattle supplies in the next couple of years.

Placements of cattle on feed in 1988 have been only slightly below a year earlier. Nonfed steer and heifer slaughter for all of 1988 likely is down about 700,000 head—nearly 35 percent—from 1987; more of these cattle were bid into feedlots. Calf slaughter has declined about 10 percent from last year.

Yearling feeder cattle prices continue above \$80 per cwt in spite of a corn price rise of over a dollar a bushel. Breakeven prices on these cattle are in the upper \$70's.

Given the continued large pork and poultry supplies, cattle feeders cannot bid 600-700 pound feeder steers away from stocker operations and still make a profit. Thus, these cattle are staying on pasture longer and are being marketed at 750-800 pounds and discounted \$3-\$5 per cwt from the price of lighter cattle.

### **Pork Supplies Up**

An 8-percent increase in farrowings last winter and spring caused higher hog slaughter and lower prices in the second

half of 1988. Large stocks of frozen pork pressured the market in the third quarter. Hog prices peaked in the low \$50's per cwt in June, slipped to the mid-\$40's in July and August, and fell to \$41 in September.

In October, hog slaughter was about 9 percent above a year earlier, and weekly rates were the largest since 1983. Barrow and gilt prices dropped into the high \$30's per cwt, and they are expected to average \$38-\$40 for the fourth quarter, down from \$44 in 1987.

The larger hog supplies are allowing packers to bid less aggressively and are depressing hog prices relative to fresh pork prices. Larger pork production and freezer stocks will keep ham prices below a year ago through the holiday season.

Commercial pork production during October-December may exceed 4.3 billion pounds, 7 percent above a year ago and the largest fourth-quarter output since 1979.

The June-August 1988 pig crop was about 3 percent larger than a year earlier, although heat stress cut the number of pigs saved per litter. Commercial slaughter in first-quarter 1989 is forecast near 22.1 million head, up 4 percent from a year earlier, with pork production up 3 percent at 3.9 billion pounds.

Weekly kills under Federal inspection may drop below 1.65 million head this winter, compared with fall peaks near 1.9 million. This will support fresh pork prices and narrow the spread between live hog prices and the value of combined wholesale cuts.

The spread has been unusually wide this fall, and a narrowing could enhance a seasonal rise in hog prices. First-quarter 1989 prices could average \$42-\$46 at the seven markets.

Second-quarter pork production may continue above 1988. Fall farrowing intentions were up 4 percent in the 10 quarterly reporting States, and up 5 percent nationwide. The number of pigs per litter likely will be lower than a year ago, primarily because of reduced conception rates during the hot May-July breeding season. As the breeding herd contracts, pig crops tend to be below farrowing intentions.

Hog slaughter may rise 3 percent in the second quarter, to 21.5 million head. Dressed weights may average lighter than this year's record 179 pounds, so commercial pork production may be up only 2 percent, totaling near 3.8 billion pounds.

Second-quarter 1989 hog prices are expected to average \$44-\$50 per cwt, compared with \$46 in 1988. Total pork supplies may be up only 1 percent per capita, and a projected 7-percent drop in beef production will help support pork prices.

### **Turkey Stocks Lower Than Last Year's Record**

Cold storage turkey stocks at the beginning of the fourth quarter were 571 million pounds, 11 percent below the 1987 record. Carryout stocks on December 31 are expected to drop to 150 million pounds, similar to 1985 and 53 percent below 1987.

Turkey production for 1988 is estimated to rise 6 percent from 1987; gains in the first half more than offset expected reductions in the second. Production is forecast to rise 3 percent in 1989. Cumulative turkey poult placements for early 1989 slaughter were up 1 percent, and egg sets on November 1 were even with the year before.

Turkey exports during January-August, at 34.5 million pounds, were up 108 percent from a year earlier. Egypt, which is experiencing meat shortages, has become the leading importer, taking about 7 million pounds. Higher U.S. prices are expected to slow future export growth, but for 1988 turkey exports are estimated to be 30-40 percent above 1987.

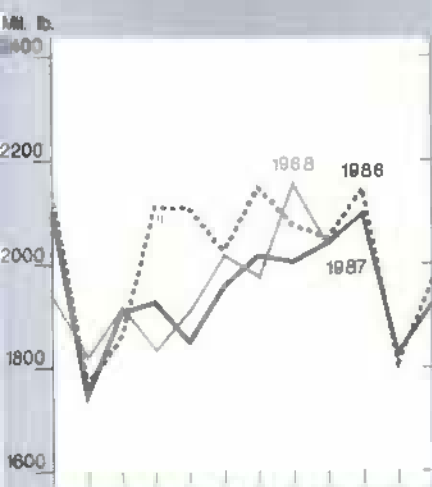
Wholesale hen turkey prices in the East averaged 73 cents per pound during the third quarter, compared with 56 cents last year. Fourth-quarter prices are expected to average 78-82 cents, up from 61 cents a year before. Prices likely will average 62-64 cents for the year.

In first-quarter 1989, prices are expected to fall seasonally to 62-68 cents, still substantially above 1988's 49 cents. The second-quarter price, at 60-66 cents, likely will be above the 51 cents in 1988. The annual average price may run 68-74 cents per pound.

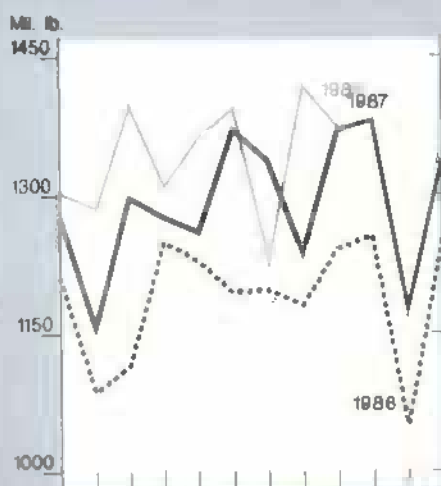


# Production of Livestock and Products

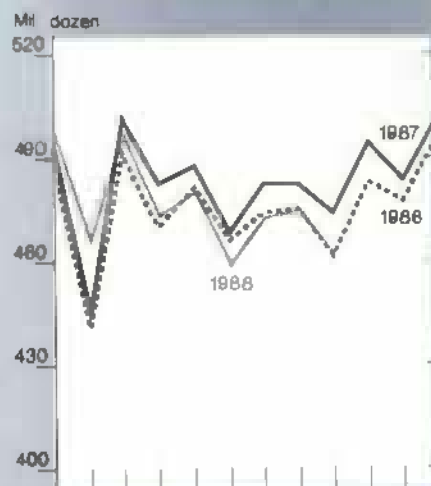
Commercial beef



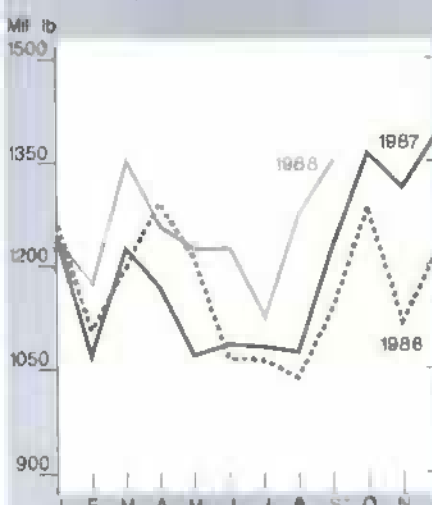
Broilers<sup>1</sup>



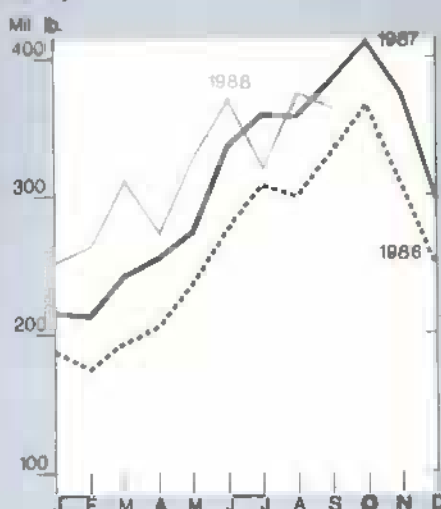
Eggs



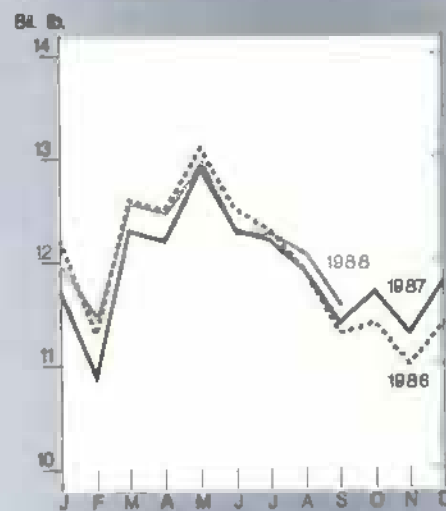
Commercial pork



Turkeys<sup>1</sup>



Milk



<sup>1</sup>Federally inspected production, ready-to-cook

## Broiler Output Next Year May Climb 4 Percent

Broiler production for 1988 likely increased 4 percent to 16.3 billion pounds. Production in 1989 could rise 4 percent again, because of higher net returns in summer 1988 and forecast positive net returns during most of 1989.

Broiler net returns became positive in March 1988 and were 16 cents per pound during the third quarter. The hatching-egg flock on October 1, a rough indicator of the number of broiler hens to be available for laying, was 1 percent above a year earlier.

U.S. broiler exports during January-August 1988 were down 1.5 percent from a year earlier, and they are expected to fall slightly in 1989.

Wholesale broiler prices decreased seasonally after a strong summer. The October price fell 5 cents from September to 58 cents per pound. Summer vacations, summer barbecues, and heavy retailer promotions ended, contributing to the decline.

Fourth-quarter prices are expected to average 53-57 cents, substantially above last year's 43 cents. The 1988 price is forecast at 55-57 cents, up from 47 in 1987.

Wholesale broiler prices in 1989 likely will average 51-57 cents a pound. First-quarter prices are expected to be 50-56 cents, above the 46 cents of 1988. Prices will rise seasonally to 53-59 cents in the second quarter, near the 1988 price.

## Total Egg Production Down This Year

For 1988, total egg production (table and hatching eggs) is down more than 1 percent. First-half production was near a year earlier, but second-half output is down. Egg production in 1989 may be down nearly 2 percent, reflecting a smaller laying flock through most of the year.

The production forecast for 1989 assumes a limited response to what may be seen as only temporarily higher wholesale prices. Significant year-to-year production declines are projected for the first three quarters, while fourth-quarter 1989 output may equal or slightly exceed a year earlier.

Following the usual seasonal pattern of lows in June-July and highs in November-December, the table-egg laying flock for the next several quarters will remain well below a year earlier. Egg-type chicks hatched during August were only 79 percent of a year earlier, while the September hatch was 96 percent.

The number of eggs in incubators on October 1 was 87 percent of a year earlier. Table-egg producers appear to be working for modest short-term increases, while resisting expansion in their longer term productive capacity.

Higher egg prices during July-September encouraged some producers to slow the slaughter of spent hens. Light-type hen slaughter during July and August was 25 percent below the same period last year. Around 22 percent of the flock had completed a molt by September, 1 percent more than last year.

Recent data on the egg-type chick hatch and eggs in incubators indicate producers may be reluctant to expand the table-type laying flock. During January-September 1988, the egg-type hatch was nearly 16 percent below a year earlier. For July through October, egg-type eggs in incubators on the first of the month were down 23, 24, 10, and 13 percent, respectively.

Per capita consumption in 1988 is expected to decline about 7 eggs to 242. Consumption may decline to 237 eggs per person in 1989.

During January-September, over 5 percent more shell eggs were used for producing liquid, frozen, and dried egg products than a year before. Liquid egg production for immediate consumption was up nearly 11 percent, frozen egg production was up 5, and dried product output was unchanged.

Wholesale prices for cartoned grade-A large eggs in New York declined to 66

cents in October, nearly 10 cents below the September average. Fourth-quarter prices are expected to average between 70 and 72 cents. For 1989, wholesale prices in New York are expected to average 69-75 cents per dozen, nearly 10 cents above 1988.

Estimated net returns to egg producers were about 4.4 cents per dozen in September, the first significant positive returns in a year. Returns were helped by a sharp runup in prices.

For 1989, net returns are projected to be below breakeven during the first half as production costs rise. But, lower feed costs and stronger egg prices in the second half may boost net returns for that period to nearly 10 cents per dozen.

Total U.S. egg exports during 1988 are expected to exceed last year by 20 to 30 percent. Higher U.S. prices expected in 1989 likely will drop exports 12 to 20 percent below 1988, depending on the extent of sales under export programs.

### *Commercial Use of Dairy Products Recovering*

Commercial use of milk and dairy products in first-half 1988 was down about 1 percent from a year earlier, mostly from lower use of butter and other cream-based products. However, traditional methods of measurement—based on milkfat—overstate the importance of the drop.

While use of butter, fluid cream, ice cream, and cream cheese dropped, domestic demand for skim-based products increased substantially. Pressure from the international market for skim solids tightened domestic markets further. Commercial disappearance began to show some recovery during July-September, as it moved more than 2 percent above 1987.

Commercial disappearance of butter during July-September rose 3 percent following large drops earlier in the year. American cheese sales increased 13 percent, while use of other cheeses was up 1 percent.

Commercial disappearance of nonfat dry milk rose more than half, in part because of exports. Between midyear—when international prices for nonfat dry milk

reached the domestic support price—and early September, agreements had been made for the commercial export of almost 150 million pounds. Export interest also has boosted sales of substitute products such as dry buttermilk and whey protein concentrate.

Dairy markets are expected to continue tight through the rest of 1988. Domestic commercial use of dairy products likely has risen during the fourth quarter, and stocks in warehouses and pipelines probably will be stretched thin. Commercial use for the year probably will exceed 1987's 135.6 billion pounds.

In 1989, domestic commercial use is expected to grow, and export prospects are bright for nonfat and other solids-not-fat products.

**For further information, contact:**  
Kevin Bost, hogs; Lee Christensen, Mark Weimar, Bob Bishop, and Larry Witucki, broilers, turkeys, and eggs; Ron Gustafson, cattle; and Jim Miller and Sara Short, dairy. All are at (202) 786-1285.

## **FIELD CROP OVERVIEW**

### *Competitor Wheat Export Supplies Continue To Tighten*

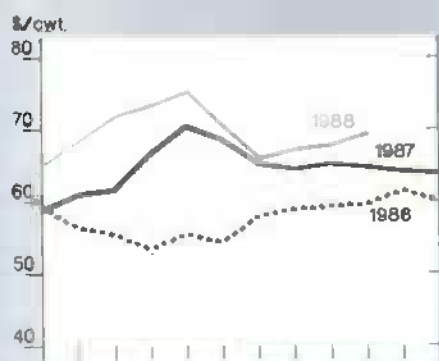
Total foreign wheat exports will drop substantially in 1988/89. Reduced import demand is limiting sales. Drought is reducing available supplies for export from Canada and Argentina. Low stocks and adverse late-season weather are trimming Australia's exportable supplies.

However, EC wheat production is forecast up 7 percent. As world prices have risen, the cost of the EC's export subsidies has dropped; the EC is likely to export an additional 3.5 million tons of wheat in 1988/89 and increase its market share.

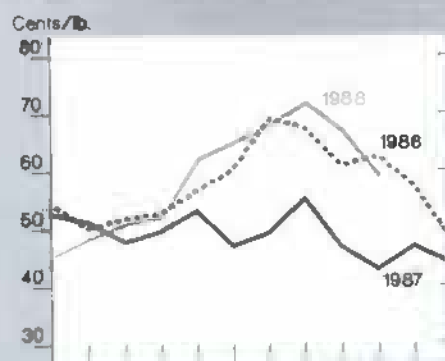
Foreign wheat production is forecast at 452.7 million tons, 5.6 million above 1987/88. World trade has slowed. Foreign imports are projected at 93 million tons, 11 percent below last year. Higher prices are partly responsible for reduced sales, but Soviet wheat imports are dropping because of this season's estimated 6-percent increase in Soviet wheat production and more attractive coarse grain prices.

# Commodity Market Prices

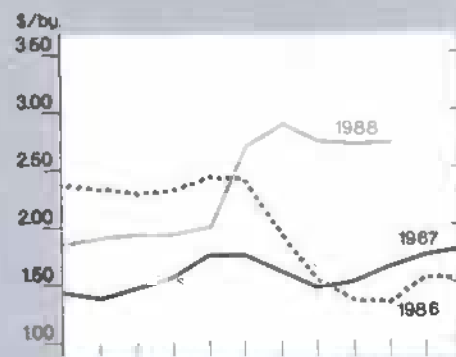
Choice steers, Omaha



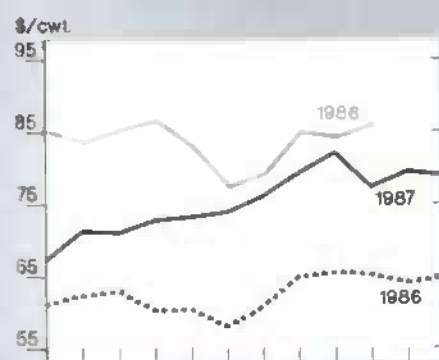
Broilers, 12-city average



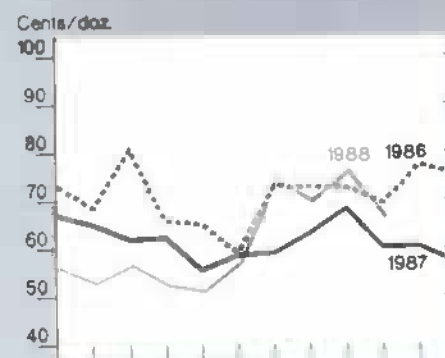
Corn, Chicago<sup>3</sup>



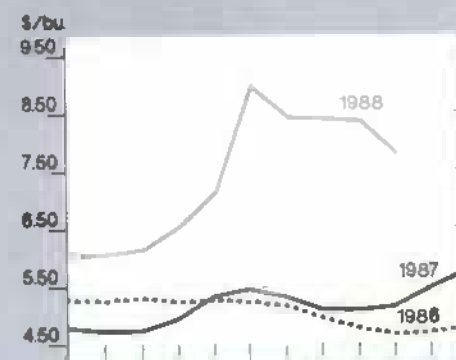
Feeder cattle, Kansas City<sup>1</sup>



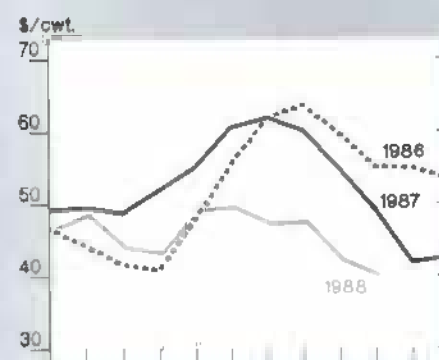
Eggs, New York<sup>2</sup>



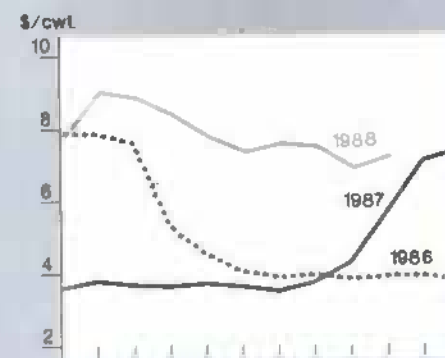
Soybeans, Chicago<sup>4</sup>



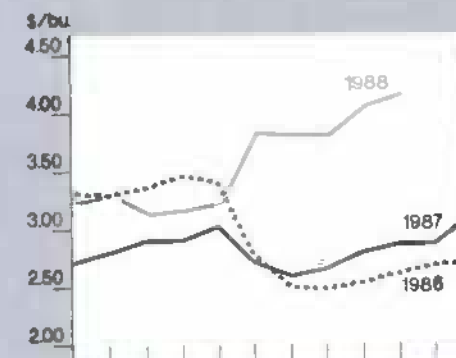
Barrows and gilts, 7 markets



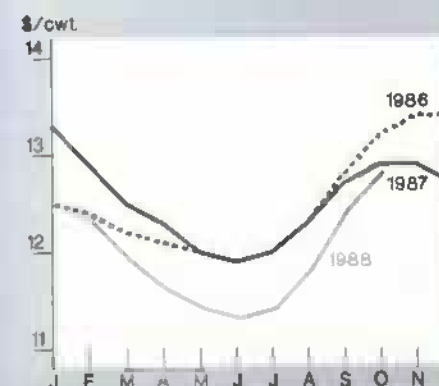
Rice (rough), SW Louisiana



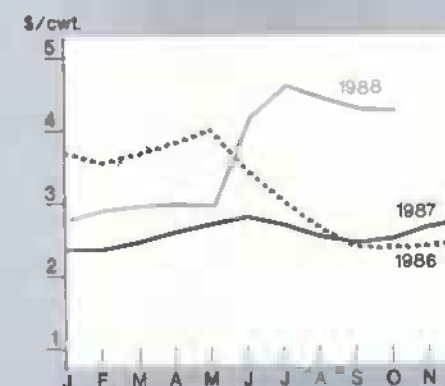
Wheat, Kansas City<sup>5</sup>



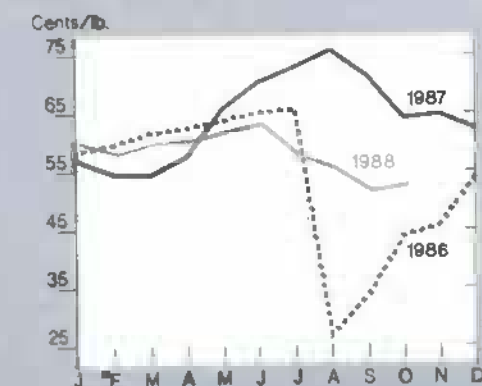
All milk



Sorghum, Kansas City



Cotton, average spot market



<sup>1</sup>600-700 lbs., medium no. 2    <sup>2</sup>Grade A large    <sup>3</sup>No. 1 yellow.    <sup>4</sup>No. 2 yellow    <sup>5</sup>No. 1 HRW.

## Generic Certificate Update

USDA issued \$21.4 billion of generic certificates from April 1986 to September 30, 1988. Certificate exchanges for grains and oilseeds as of November 8, 1988, totaled \$20.3 billion. Exchanges for cotton as of November 8 and for cash as of October 11 brought total certificate exchanges since April 1986 to \$21.1 billion.

With \$1 billion in final deficiency payments for 1987-crop corn and sorghum made in certificates during October, near-term availability of generic certificates is estimated at \$1.3 billion.

Prices for generic certificates have averaged 1-2 percent below face value since September 1. Certificate prices typically strengthen in the fall as opportunities for "Quick PIK" (exchanging certificates for crops placed as loan collateral to avoid storage and interest charges) increase for corn producers. However, because cash prices for corn are already above 1988 loan repayment levels, "Quick PIK" opportunities are negligible.

Demand for certificates will be primarily for exchange for grains owned by the CCC or in the Farmer-Owned Reserve (FOR). With supplies of certificates tightening, certificate prices could rise above par in the coming months before corn prices reach the FOR trigger level of \$2.93 a bushel. [Joe Glauber (202) 786-1840]

Domestic wheat outturn for 1988/89 is forecast substantially below a year earlier. At 1.8 billion bushels, production is expected to be off about 300 million bushels, or 14 percent. Most of the decline results from drought-related reductions in spring wheat. Average U.S. wheat prices for 1988/89 are forecast at \$3.55-\$3.85 per bushel, up from \$2.57 in 1987/88.

### Foreign Demand for Feed Grains Is Rising

Reflecting tighter supplies, U.S. season average prices for corn (\$2.40-\$2.80 per

Cumulative Generic Certificate Exchanges as of November 8, 1988

Commodity 1/	Unit	CCC Inventory 2/	Loans	Total
<b>Food grains</b>				
Wheat				
Volume	(mil. bu.)	769.3	625.2	1,394.6
Value	(\$ mil.)	1,998.0	1,585.1	3,583.1
Rice				
Volume	(mil. cwt)	42.7	0.4	43.0
Value	(\$ mil.)	156.9	1.6	158.5
<b>Feed grains</b>				
Corn				
Volume	(mil. bu.)	1,390.8	7,099.2	8,490.0
Value	(\$ mil.)	2,884.7	12,165.1	15,049.8
Grain sorghum				
Volume	(mil. bu.)	177.1	461.0	630.1
Value	(\$ mil.)	337.0	666.7	1,003.7
Barley				
Volume	(mil. bu.)	96.4	167.2	263.6
Value	(\$ mil.)	153.6	274.4	427.9
Cotton				
Volume	(mil. bales)	.90	6.37	7.27
Rye, oats, soybeans				
Value	(\$ mil.)	25.5	34.0	59.5
<b>Total value 3/</b>	<b>(\$ mil.)</b>	<b>5,556.6</b>	<b>14,726.9</b>	<b>20,283.5</b>

1/ Other program commodities for which few or no exchanges have been made include honey, nonfat dry milk, butter, and cheese. 2/ CCC loans as of November 4, 1988. 3/ Does not include values for cotton exchanges.

Source: Agricultural Stabilization and Conservation Service, USDA.

Certificate Issuances and Exchanges, April 1986 to November 8, 1988 1/

Period	Carryin	Issuances	Exchanges				Selling at
			Corn	Wheat	Other	Carryout	
			\$ million				Percent
Apr.-Nov. '86	--	2,725.7	875.0	305.8	247.3	1,217.6	113.1
Dec.-Feb. '87	1,217.6	2,004.5 2/	1,035.2	180.8	82.2	1,923.9	105.4
Mar.-May '87	1,923.9	3,407.9	2,565.1	339.2	178.0	2,049.8	103.4
June-Aug. '87	2,049.8	1,240.6 3/	932.5	217.3	73.7	2,066.6	106.5
Sept.-Nov. '87	2,066.6	3,127.9 4/	1,682.2	419.6	210.3	2,882.5	105.5
Dec.-Feb. '88	2,882.5	4,838.6	2,460.3	953.2	290.0	4,017.6	103.7
Mar.-May '88	4,017.6	2,725.8	2,077.1	534.2	169.7	3,960.4	100.1
June-Aug. '88	3,960.4	1,315.5	2,981.9	269.3	305.5	2,125.2	99.4
Sept.-Nov. '88	1,719.2	47.3 5/	440.5	83.8	93.9	1,148.4	98.7

1/ Does not include certificate issuances and exchanges for cotton or certificate exchanges for cash. 2/ Through 1/31/87. 3/ Through 7/31/87. 4/ Through 10/31/87. 5/ Through 9/30/88.

bushel) and sorghum (\$2.15-\$2.55) are both forecast well above recent years.

U.S. feed grain production for 1988/89 likely will total 141.7 million metric tons, down from 215.2 million a year earlier. Drought has significantly lowered yields for all feed grains.

Foreign coarse grain production is expected to decline in 1988/89 to 568 million tons, 1 percent below 1987/88. Foreign demand for coarse grain imports appears to be expanding, particularly in

the Soviet Union and Eastern Europe, where production is down. Soviet imports for 1988/89 (October-September) are forecast to rise by more than 5 million tons, to 16 million.

World coarse grain trade is expected to rise nearly 8 million tons to 89.2 million, the first large gain since 1984/85. Foreign exports are projected up 31 percent to 38 million tons.

U.S. corn exports are rising to 45.1 million tons (1,775 million bushels), up 1.1 million tons (43 million bushels). But,



U.S. coarse grain exports are expected to drop 2 percent to 51.5 million tons, as declines in sorghum and barley exports more than offset the gains in corn. The U.S. share of the coarse grain market is expected to be about 58 percent, compared with 65 in 1987/88.

### **U.S. Losing Share of World Cotton Market**

U.S. cotton production is forecast at 14.8 million bales, slightly above last season. Sharply higher acreage is more than offsetting lower yields. Production plus carryin is estimated at 20.6 million bales, the biggest supply since 1966/67.

Despite a large supply and lower prices, U.S. disappearance will be less than last season. Ending stocks may rise further to 8.8 million bales, more than 50 percent above beginning stocks.

Domestic mill consumption is expected to drop 10 percent to 6.9 million bales, even though cotton textile imports have slowed and textile exports are up. Slower denim business and higher mill and retail inventories partially account for lower mill use this season. Increased supplies of competitively priced cotton abroad will push U.S. exports down by nearly one-fourth, to about 5 million bales.

Details of the 1989/90 upland cotton program were announced in October. To be eligible for benefits next season, producers will have to reduce acreage by 25 percent of their base (compared with 12.5 percent in 1988), but there will be no paid land diversion.

If the adjusted world price (AWP) falls below the announced loan rate, a marketing loan program (under Plan B) will be put into effect. Under this program, 1989-crop cotton under loan may be repaid at the AWP for that week.

Foreign cotton production, at 69 million bales, is expected to be up 5 percent from 1987/88. The Soviet harvest is well ahead of last year's late crop, and compares favorably with previous good crops.

Because cloudy weather delayed crop development beyond the optimum harvest period, China's production is expected to be the same as last year, 1.5

million bales less than previously forecast. Rains and some flooding in Pakistan and India dampened likely gains there, but both countries still foresee large harvests.

In recent months, slower textile sales have weakened world import demand for cotton, and foreign imports are now projected down 2 percent. With larger production, foreign exports are projected up sharply—at the expense of U.S. sales. The U.S. share of world cotton trade this season is expected to fall from 28 to 21 percent.

### **Soybean Prices Less Than Peak, But Still High**

U.S. soybean production in 1988/89 continues to be forecast at 1.5 billion bushels. Late-season precipitation and good harvest conditions improved prospects somewhat. Nonetheless, the crop was 21 percent below last year's, so stocks will be tight.

Soybean harvesting made good progress in October, and quality was not as bad as had been feared. The larger-than-expected harvest, together with sharp declines in crushings and exports and improved rainfall in Brazil, moderated the U.S. soybean price increases that occurred earlier in the summer.

Domestic soybean meal disappearance set a record in August, although prices were above \$250 per ton. Large soybean stocks in South America are offsetting lower U.S. supplies and are filling export demand. This could change as South American stocks dwindle.

In August, with South American soybean oil prices significantly discounted from U.S. prices, U.S. imports of soybean oil reached a record. [James Cole (202) 786-1840 and Carolyn L. Whitton (202) 786-1826]

**For further information, contact:** Sara Schwartz, world food grains; Edward Allen, domestic wheat; Janet Livezey, domestic rice; Peter Riley, world feed grains; James Cole, domestic feed grains; Bob Cummings, world oilseeds; Roger Hoskin, domestic oilseeds; Carolyn Whitton, world cotton; Bob Skinner, domestic cotton; Jim Schaub, domestic peanuts. World information (202) 786-1824; domestic (202) 786-1840.

## **HIGH-VALUE CROP OVERVIEW**

### **Smaller Crop, Stronger Exports Bolster Potato Prices**

A smaller crop and continued strong export demand for frozen potatoes will push potato prices for the 1988/89 season above a year earlier. U.S. potato production for 1988 is forecast at 352 million cwt, down 8 percent from 1987 and 3 percent from 1986.

Dry weather and reduced acreage cut summer production 14 percent. Dry and hot weather in the Midwest and the Red River Valley hurt the important fall crop. Yields in North Dakota and Minnesota averaged 115 and 190 cwt per acre, respectively, less than the averages of 178 and 216 for the past 3 years.

Average grower prices typically rise about 4 percent for each 1-percent drop in production. Hence, the season-average price may rise as much as 32 percent from 1987/88's \$4.47 per cwt. Strong exports could boost prices a little more.

U.S. exports of frozen potatoes (mostly french fries to Japan) rose sharply above a year earlier during the first 8 months of 1988. Exports during the remainder of 1988 may be up even more, because South Korea recently lifted its import quota on frozen french fries. South Korea has a relatively young population and could become a big market for U.S. frozen potatoes.

### **Too Much Rain on Florida Vegetables**

Excessive rains during mid-September and ensuing high temperatures hurt the quality and quantity of fresh tomatoes and other vegetables shipped from Florida's Palmetto-Ruskin growing area during late October and early November.

However, vegetables in the warmer southern areas of the State are generally in good condition, and supplies likely will be normal or larger when harvesting begins in December and January.

California's lettuce prospects for the winter appear better than last season, when white fly and resultant virus infestations cut production and sent prices sky

high. White fly populations reportedly are substantially lower this fall.

The area for fresh-market fall vegetables dropped 2 percent from 1987, primarily because of reduced broccoli and cauliflower acreage in California. The cut may be due to increased imports of frozen broccoli and cauliflower.

#### ***Grower, Retail Prices Higher For Fruit and Vegetables***

In part because of hot, dry growing conditions, farm prices for most fruits and vegetables averaged higher this summer and fall than a year earlier. The increases will translate into higher consumer prices this winter.

The October index of grower prices for fresh vegetables exceeded a year earlier by 13 percent, while the index of fruit prices fell 6 percent. Prices for valencia oranges and strawberries from California were much lower, but prices for apples and peaches exceeded a year earlier.

Although most major production areas irrigate fresh vegetables, lower output in some nonirrigated areas boosted prices. Prices for all of the seven vegetables included in the index averaged higher this October than in 1987.

Fresh apple prices, which averaged 12.7 cents a pound in October 1987, jumped to 20.8 cents this October. A large valencia crop in California lowered growers' orange prices to about half those of a year earlier.

Consumer prices for fruit and vegetables also rose this summer and fall. Retail vegetable prices are climbing through the fourth quarter because of continued tight supplies of fresh products and higher f.o.b. prices for processed vegetables.

A smaller crop drove retail prices for fresh apples sharply higher. Although seasonal increases in supplies of citrus, apples, and pears will lower consumer prices from earlier in the fall, prices likely will remain above last year.

Retail prices for processed fruit likely will continue to rise during the fall and winter because of tight supplies, strong demand, and higher contract prices for

raw fruit. Reduced supplies and good demand will keep dried prune prices strong; demand is rising for raisins also.

Frozen fruit and berry prices will not rise appreciably. Although the frozen tart cherry pack was smaller this year than last, supplies are relatively large. Frozen strawberry stocks are slightly bigger than last fall. Frozen concentrated orange juice prices may weaken in view of recent discounts offered by Florida packers following the larger-than-expected production forecast.

#### ***Summer Drought Lowers U.S. Sugar Production***

U.S. beet and cane sugar production is forecast at 6.74 million short tons for crop year 1988/89, down 8 percent from last season's record. The downturn stems from an anticipated 14-percent drop in beet sugar output, with cane sugar production about unchanged.

Battered by summer drought in the Red River Valley and by virus yellow disease in California, sugarbeet yields fell an estimated 13 percent from 1987. U.S. production is down to an estimated 25.1 million tons, compared with 27.9 million last year.

In contrast to the harsh weather in beet areas, generally good growing conditions graced the nation's cane crop. Yields are expected to rise by 4.4 percent and total production by 6.7. Cane sugar production, however, is likely to remain steady because the amount of sugar recovered per ton of cane will be lower this year.

USDA set the fiscal 1989 market stabilization price (MSP) for raw cane sugar at 21.80 cents per pound, up from 21.76 in 1988. The MSP represents the price needed to ensure that growers do not forfeit to CCC sugar that they used as collateral for price support loans.

Federal law requires that the sugar price support program be operated at no net cost to the Government. The new MSP is the sum of the price-support loan rate for fiscal 1989 (18 cents per pound), a transportation charge for shipping raw cane sugar (2.97 cents), interest costs for

repaying the loan at full maturity (0.63 cents), and an incentive factor of 0.20 cents.

U.S. sugar deliveries continue to rebound following 10 years of decline. Fiscal 1988 deliveries are estimated at 8.19 million tons, up 1.8 percent from the previous year.

Strong demand for sugar in baking, cereals, and confectionery products, and slower substitution of high fructose corn syrup for sugar, are fueling the growth. Deliveries in fiscal 1989 are anticipated at 8.3 million tons, the highest in 5 years. [Glenn Zepp (202) 786-1883]

For further information, contact: Ben Huang, fruit; Shannon Hamm, vegetables; Peter Buzzanell, sweeteners; Verner Grise, tobacco. All are at (202) 786-1886.

#### **Upcoming Releases from The Agricultural Statistics Board**

The following list gives the release dates of the major Agricultural Statistics Board reports that will be issued by the time the January-February *Agricultural Outlook* comes off press.

##### **December**

- 1 Egg Products
- 2 Poultry Slaughter
- 5 Dairy Products
- 6 Celery
- 12 Crop Production
- 13 Turkey Hatchery
- 15 Milk Production
- 16 Vegetables  
Cattle on Feed  
Potato Stocks
- 20 Catfish
- 21 Cold Storage
- 22 Eggs, Chickens, &  
Turkeys  
Livestock Slaughter
- 29 Peanut Stocks &  
Processing
- 30 Agricultural Prices



## Commodity Spotlights

### Trends in "Forgotten" Dairy Products

Most of the dairy industry's attention is focused on fluid milk, cheese, butter, and nonfat dry milk. These major products use most of the milk supply and are the core of the dairy industry.

Eggnog, fluid cream, yogurt, cottage cheese, and canned milk lie in the shadows. Yet some of these forgotten markets are sizable, and collectively they are important to the dairy industry.

The products use about 8 billion pounds of farm milk, plus the milkfat from an additional 3 billion pounds of milk. The farm value of these items is \$1 billion, more than the value of many farm commodities.

#### *Eggnog Season Expanding*

A traditional part of the yearend holiday season, eggnog has grown steadily in

sales. Sales in 1987 were twice those of 1970, an annual growth of about 4 percent. Part of eggnog's appeal is convenience, an increasingly valued feature.

Some growth in eggnog sales has come from use outside the traditional holiday season. At one time, milk processors started to sell eggnog just before Thanksgiving and quit in late December. Now some processors sell eggnog for Halloween, and resume sales for a short Easter season.

In 1970, three-fourths of annual eggnog sales were in December, with less than 2 percent during the first 10 months of the year. In recent years, December sales have been down to two-thirds of the annual total, and January-October use has grown to almost 5 percent. The eggnog season probably will continue to lengthen, but a high-quality, long-shelf-life eggnog likely would be needed to match the off-season success that turkey and cranberries have attained.

#### *Fluid Cream Rises Above One-Time Quality Problems*

In the late sixties, the fluid cream market was in trouble. Outdated provisions of price-support legislation held cream prices high relative to skim milk, and sales fell steadily. As less cream was sold, quality problems appeared. A sizable share of the product was returned by retail stores because it had gone out of condition. These returns boosted the costs of providing cream, so prices went higher.

In the early seventies, two factors broke the downward spiral in cream sales. First, changes in the price-support program and in Federal milk marketing orders lowered the relative price of cream to fluid processors. Second, ultrapasteurization was widely adopted. A more severe heat treatment than pasteurization, ultrapasteurization lengthens shelf life and reduces the odds of buying poor-quality cream.

Sales of cream grew by three-fourths between 1970 and 1987. Whipping cream and sour cream sales more than doubled, while half-and-half and light cream posted smaller gains.

Sales of heavy cream hit bottom in the early seventies, half-and-half in the mid-seventies, and light cream in the early eighties. By 1987, milkfat sold in fluid cream was about 300 million pounds, roughly 40 percent of the milkfat sold in butter.

However, cream consists of more than milkfat; a good deal of it is skim milk. The amount of skim milk sold in cream in 1987 was about half that sold directly as skim milk.

#### *Yogurt Is a Fast-Growing Item*

Yogurt has received a great deal of attention. It has a lot of value added to the raw ingredients and offers opportunities for brand differentiation. Sales in 1987 were more than six times sales in 1970 and were growing rapidly.

The U.S. yogurt market was tiny before the introduction of sweetened, fruit-flavored yogurt. Until then, yogurt was produced by relatively few makers, was not easily obtained in many areas, and was sold mostly to ethnic groups.

Fruit flavors dramatically broadened yogurt's appeal. Flavored yogurt now is often eaten as a snack or light meal, although Americans have not taken to eating plain yogurt, or to using it as an ingredient in food preparation.

Lost in the excitement about yogurt's rapid growth is the realization that yogurt remains a minor use of milk. The 1987 sales of 1.1 billion pounds are dwarfed by the 57 billion pounds of other fluid products. Growth in yogurt sales since 1970 has contributed considerably less to farm milk demand than have increases in fluid cream use.

#### *Cottage Cheese Sales Falling*

As a lowfat protein food, cottage cheese is associated with light meals and dieting. Sales rose steadily until the early seventies, as cottage cheese was touted as a product in step with changes in lifestyle.



However, sales have fallen about 1 percent a year from the 1972 peak of 1.1 billion pounds. There has been a shift from creamed to lowfat cottage cheese. Low-fat made up only a tenth of total cottage cheese sales in 1972; the share rose to more than a fourth in 1987.

When skim milk became a larger share of farm milk value in the early seventies, the price of cottage cheese was pushed up relative to other milk products. The relative values of skim milk and cream continue to affect cottage cheese use.

The decline in cottage cheese sales slowed slightly because of falling skim milk prices during 1983-88. Yogurt's popularity also may have contributed to the slide in cottage cheese sales. Although the two products are dissimilar, yogurt is eaten in situations where cottage cheese may be an alternative.

Nevertheless, cottage cheese is still a significant use of skim milk. Production in 1987 took about 3.6 billion pounds of skim milk, almost a third as much as was used in nonfat dry milk. Declines in cottage cheese sales have a significant effect on total use of skim milk solids.

#### **Price and Taste Work Against Canned Milk**

Canned milk holds a prominent position in the history of the U.S. dairy industry. It was a marvel to Civil War troops, was the item produced by most of the early dairy factories, and for a long time was the only alternative to the family cow for many households.

In 1950, canned milk used almost 7 billion pounds of milk, 80 percent of the amount used to produce American cheese and twice that used for all other cheeses. Since then, canned milk use has fallen and no longer holds an important position.

Commercial use of canned milk in 1987 was under 600 million pounds, less than half the 1970 level. Part of the reason is relative price. The price difference between a can of evaporated milk and the equivalent amount of fluid milk narrowed because of more rapidly rising packaging costs for canned milk. Also, the difference in the prices of raw milk used in the two products has shrunk as a proportion of retail price.

An additional cause for declining canned milk use is the diminished value consumers place on storability. Most consumers have easy access to fluid milk supplies and large refrigerators. The difference in flavor probably is now more important to consumers than storability. Canning involves fairly severe heat processing, and flavor changes are pronounced. [James Miller (202) 786-1284]

#### **Aquaculture Is Replacing Some Wild Catch**

U.S. aquacultural output—including food and nonfood fish, shellfish, and other aquatic products—increased 20 percent in 1987 to almost 750 million pounds. The output was worth \$650 million.

The expansion was led by catfish, crawfish, and salmon. Together, the three products exceeded 550 million pounds in 1987, up from about 108 million in 1980. U.S. consumption of fisheries products is up to about 20 pounds per person per year, of which 2-3 pounds is from aquaculture.

Expansion in the next decade probably will slow to less than 10 percent a year unless new technologies and more resources become available. A shortage of water supplies likely will impede expansion, particularly in areas where production is already highly concentrated. Where aquaculture is just beginning to develop, limited management resources, capital, and industry infrastructure will constrain expansion.

Slower growth in aquaculture, minimal growth in commercial fishing (harvesting of wild catch), and continued strong demand for fishery products will lead to increasing dependence on imports, already at \$8.8 billion in 1987. However, the extent of U.S. dependence on imported fishery products will be influenced by new technology, growth of the commercial fishing fleet, and shifts in consumer demand.

#### **New Technology May Boost Production**

New systems for producing marine fish and shellfish may bring some commercial fishermen into aquaculture, drawing skilled management and labor into the industry.

In Maine, research continues on lobster production. In Canada, research on black cod, a favorite in Japanese and U.S. markets, is under way.

Striped bass (rockfish) were in short supply following a ban on their catch 3 years ago in the Chesapeake Bay, the major producing area. They now are being produced in California and North Carolina, with sales from Texas, Arizona, Mississippi, and Maryland likely next year. Oysters, littleneck clams, red fish, and sturgeon are other species traditionally supplied from the wild catch that are now being supplied from aquaculture.

Developing genetically superior catfish and trout offers potential for expansion. Auburn University has crossed a commercial blue catfish with the aquacultured channel catfish to produce a hybrid with up to a 40-percent greater growth rate, and a higher tolerance for low oxygen content and higher stocking rates. Injecting fish with growth hormones from other fish or animals also may help the industry expand production.

Lower production costs and higher output could result from research on fish diseases, on water oxygenation, and on resistance to stress from high stocking rates, rapid temperature changes, and diminishing water quality.



One firm has begun building an enclosed 17-acre catfish production and processing facility with a capacity of 5 million pounds per year. By contrast, conventional pond production of this amount in Mississippi requires about 1,000 acres. Substitution of capital for other inputs has helped agricultural industries to grow, but this has yet to be demonstrated in aquaculture.

### ***Catfish Is Largest Segment of Aquaculture***

Catfish production increased from less than 77 million pounds in 1980 to over 370 million pounds (about \$250 million) in 1987. Production is highly concentrated and integrated in the Mississippi Delta, where fewer than 20 percent of all commercial producers supply over 80 percent of output.

Catfish production could continue to expand 20 percent annually if the industry picks up in Texas, Oklahoma, and North Carolina. These States have vast water and land resources but scarce management resources and a limited aquacultural infrastructure.

To expand domestic markets will require continued product differentiation, aggressive promotion, and further education of retailers and consumers regarding catfish products. Exports, particularly to Europe and Japan, are likely to expand faster than domestic sales.

### ***Salmon Is Fastest Growing Segment***

Worldwide aquacultured salmon production is estimated up 75 percent from last year to over 300 million pounds. Norway, the top producer, likely raised about 160 million pounds in 1988, almost double 1987's output.

The strong value of the yen and high Japanese demand has increased competition in world salmon markets. Japanese buying reduced U.S. purchases of top-quality salmon, forcing some U.S. restaurants to remove salmon from their menus.

A buying frenzy resulted from early reports of a small Alaskan catch coupled with losses in the Norwegian salmon crop because of a "red tide" (infestation of a microorganism that reduces the oxygen level of the water so the fish suffocate). Japanese distributors are reluctant to purchase as much of the high-priced product because of consumer resistance to record-high prices.

### ***Old Food Finds New Acceptance***

Crawfish, a traditional Cajun food, is finding wider U.S. acceptance. In 1987, Americans consumed almost 100 million pounds of crawfish with a farm value of about \$45 million. About 70 percent was consumed in Louisiana, down from 90 percent in 1980.

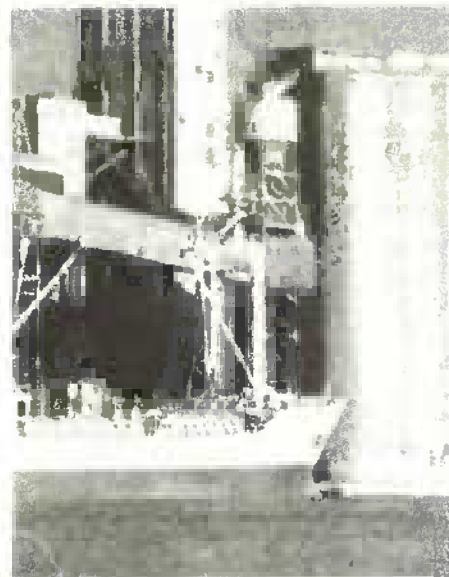
Traditionally crawfish is cooked and served whole, although only the tail portion is eaten. Processors now provide the tail meat to wholesalers in several forms. The tail meat also appears in fast food restaurants and in several retail products.

### ***More Species Are Aquacultured***

Abalone, alligators, carp, pacu, pike, tilapia, and walleye are a few of the many species newly produced through aquaculture. Some species such as pacu and walleye are still in experimental production. Others such as abalone and tilapia have been farmed for many years in foreign countries.

The continued demise of native environments, a diminishing wild catch, and the need to find economical species are among the reasons for seeking new species. Almost every State in the U.S. is developing an aquacultural industry.

Some States promote aquaculture to use land and water resources. Others support it as an alternative for farmers and rural communities depressed by the poor performance of the traditional agricultural economy. [Michael Dicks (202) 786-1890]



## **World Agriculture and Trade**

### **SHIFTS IN SOVIET AGRICULTURE**

During the first 9 months of 1988, the United States shipped the Soviets \$1.2 billion of grain. In value, the sales accounted for 20 percent of all U.S. wheat exports to that date and 12 percent of all corn.

The shipment of additional corn already under contract should ensure the United States more than 40 percent of the large Soviet market in calendar 1988. In addition, U.S. soybean and soybean meal exports to the USSR in the first 9 months of 1988 totaled \$362 million, or 8 percent of all U.S. bean and meal exports.

The Soviets remain unhappy about their large agricultural imports, especially because they must pay hard currency for them. The Soviets' chief source of hard currency is from petroleum sales. With relatively low prices for petroleum and high prices for grains, the terms of trade have worsened and hard currency is scarce. The Soviets want to break the circle of selling fuel to buy grain and become more self-sufficient in agriculture.

### ***World Prices Boost Farm Import Bill***

Soviet agricultural imports in 1988 may cost \$1 billion more than 1987's \$15.5

billion. The bill for grain, the primary farm import for which the Soviets pay hard currency, will increase over \$1 billion from 1987's \$2.6 billion, mostly because import prices are up 35 percent. The quantity may be slightly above 1987.

Larger soybean meal imports and higher prices for soybeans and meal likely will result in a 40-percent rise in the cost of protein feed imports, another hard currency expense. The 1987 total was \$855 million. The meal is needed to raise the protein content of animal rations and increase livestock productivity.

Soviet agricultural import volume in 1989 likely will be close to 1988, except that grain imports may be higher. The cost of imports could be much greater because of higher prices; grain's unit value could be up 20 percent.

Soviet farm production for 1988 is up almost 3 percent, according to USDA estimates, with livestock output up almost 4 percent and crops up perhaps 2 percent. Although grain production is down, the quality of the crop is expected to be much better than last year. Sugar, oilseed, cotton, vegetable, and fruit production likely are higher than in 1987.

#### **Energy Price Drop Hurts Soviet Balance of Trade**

The cost of increased agricultural imports—coupled with relatively low petroleum prices, deteriorating terms of trade, and continued need for nonagricultural imports—could make Soviet traders even more exacting in 1989.

Energy sales to the West usually account for 60 percent of Soviet hard currency receipts. Soviet oil export prices in the first 9 months of 1988 averaged below 1986; the 15-20 percent price increase in 1987 was more than lost in 1988.

The decline in energy prices accelerated in the second half of 1988, and possible further declines suggest that the Soviet hard currency situation is likely to deteriorate in late 1988 and into 1989.

The Soviets' terms of trade with non-socialist countries are forecast to drop 8 percent in 1988. The decline is higher for the energy-agricultural terms of trade with the West.

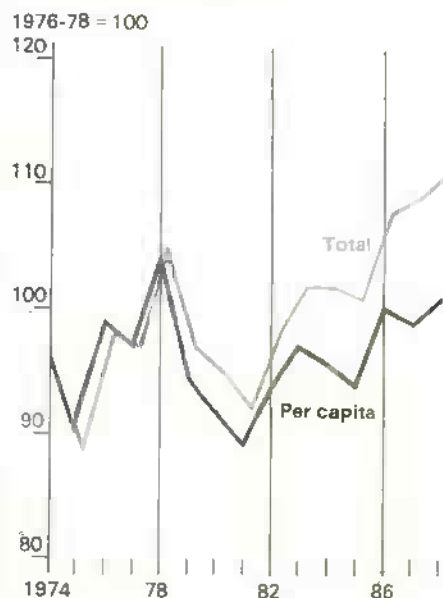
A country's terms of trade are measured by the ratio of import to export prices. For the Soviets, a major export is petroleum, so the ratio of grain to oil prices is an important consideration for them. Declining energy prices and higher grain prices not only wiped out the improved terms of trade that the Soviets experienced in 1987, but as of September 1988 left them facing their poorest grain-oil terms of trade since 1975.

In the first half of 1988, the increased volume of Soviet energy exports to the West offset the price losses. Still, the January-June Soviet trade deficit with the industrialized West reached \$3 billion, the highest since the \$4 billion recorded in 1985. The Soviets imported more Western goods in the first half of 1988 than in any first half since 1983.

#### **Demand Strong for Better Food Supplies**

Some Soviet economists advise an increase in foreign debt not only for capital-goods imports to modernize industry, but also for consumer-goods imports to satisfy high demand and increase worker incentives. The lack of consumer goods (including quality food products), massive consumer subsidies for food, and higher wages have resulted in growing excess consumer demand and excess savings, despite both open and hidden inflation.

**Soviet Agricultural Production  
Rising in the 1980's**



1988 estimated.

The Soviets have maintained the basic prices on most state-distributed foodstuffs at 1962 levels. These have resulted in massive consumer subsidies as production, processing, and marketing costs have risen.

The subsidies (over 90 percent for livestock products) amounted to about 60 billion rubles (\$94 billion) in 1987. The subsidies continue to rise. Although small cooperatives and individual enterprises are now encouraged, their output of goods and services is not yet significant.

The average Soviet's income during January-September 1988 was 9 percent higher than a year earlier. In 1987, the corresponding increase was less than half that much. Deposits in the state savings bank have swelled 5 percent since the first of the year.

#### **Long-Term Leases Viewed as Means To Improve Farm Production**

The Soviets have built modestly on the 1986 breakthrough in agricultural production, when output increased 7 percent after years of stagnation or decline. Still, per capita production has only regained its 1976-78 average.

The current focus is on improving farming practices and management, increasing competition, and raising worker incentives by decentralizing management and financial responsibilities. Management and financial responsibility are being handed from the national Government to local government, from local agricultural administrators to farm managers, and from farm managers to cooperatives or collective contract teams.

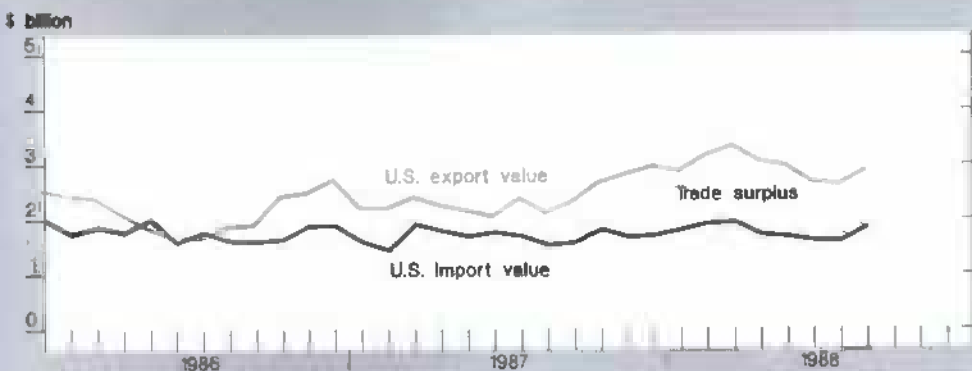
Decentralization's newest aim is to establish lease collectives, predominantly on state and collective farms, but also on land outside the socialized farm system. Small groups can lease land from a farm, a government agency, or an industrial firm that controls it. Leasing has produced phenomenal increases in output, efficiency, and cost savings. However, the results may in part reflect the attention being given the relatively few lease units now in operation.

Factors limiting the potential for big improvements from leasing include:

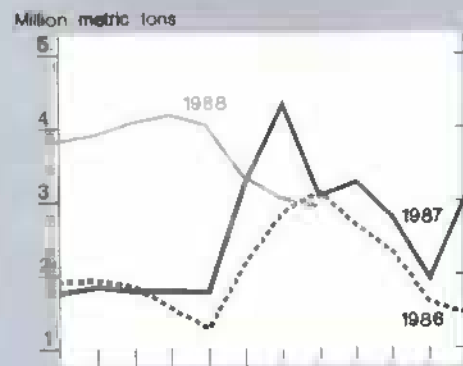
- administrators' and farm managers' resistance to decreased control,

# U.S. Agricultural Trade Indicators

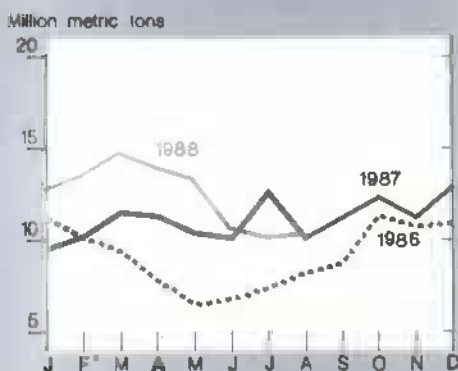
## U.S. agricultural trade balance



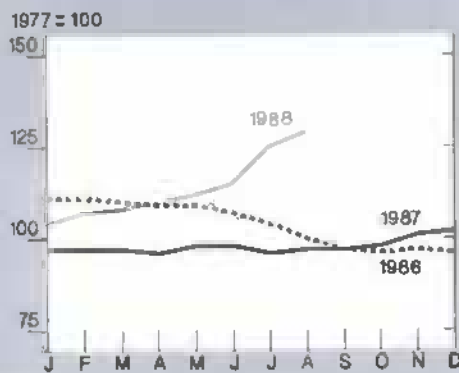
## U.S. wheat exports



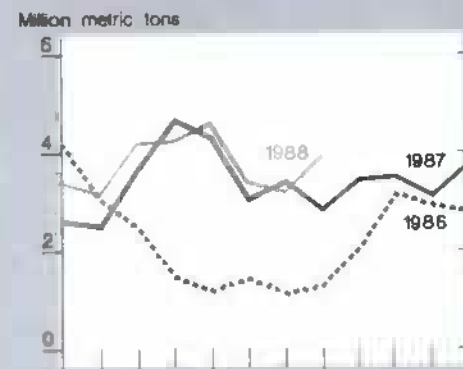
## Export volume



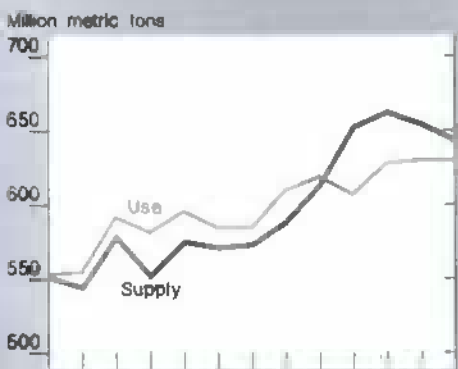
## Index of export prices



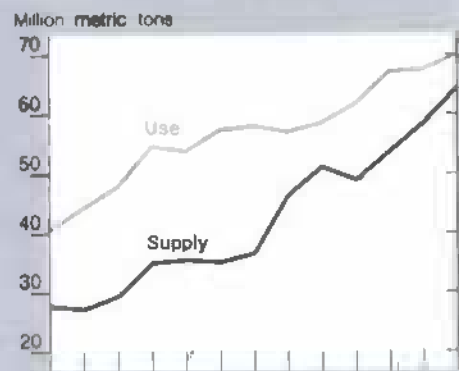
## U.S. corn exports



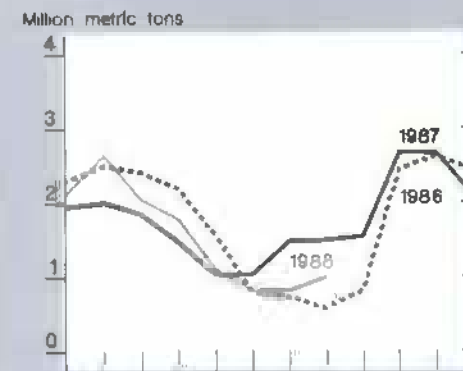
## Foreign supply & use of coarse grains



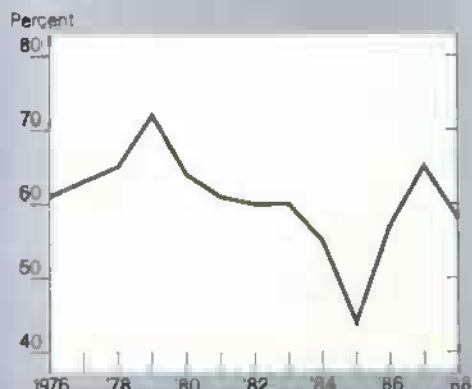
## Foreign supply & use of soybeans



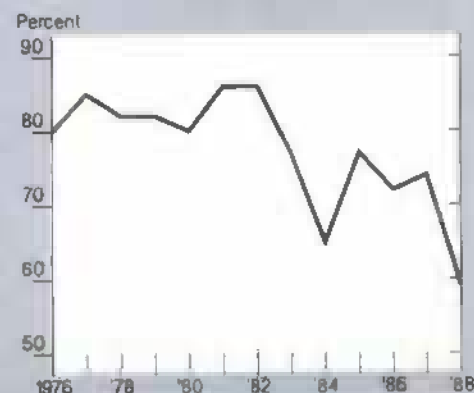
## U.S. soybean exports



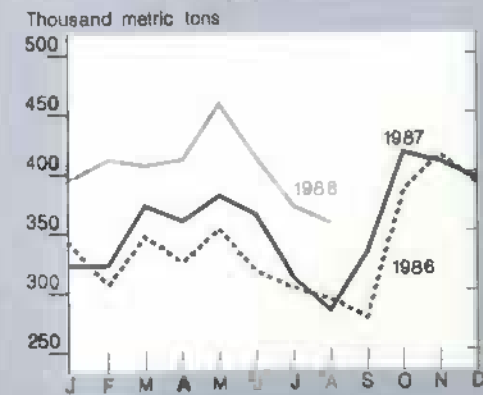
## U.S. share of world coarse grains exports<sup>1,2</sup>



## U.S. share of world soybean exports<sup>1,2</sup>



## U.S. fruit & vegetable exports<sup>3</sup>



<sup>1</sup>Excluding intra-EC trade. <sup>2</sup>October-September years. <sup>3</sup>Includes fruit juices.



farm workers' reluctance to take risks,

- inadequacies of Soviet farm inputs and infrastructure,
- doubts about the permanence of the lease program,
- lack of market-determined prices, and
- state reluctance to allow large income disparities.

To help remedy these problems, the Soviets are providing an appeal process for lessees faced with unwilling authorities, establishing wholesale trade in inputs, and making educational efforts to counter the widely felt envy and suspicion of differences in income.

A recent poll showed that only about 15 percent of the adult population favored cooperative and individual labor activities, to which leasing is closely related. Negative attitudes about income disparities have led to vandalism, and are limiting success not only for improved agricultural production, but also for food processing and trade and other consumer goods and services.

#### **Better Post-Harvest Handling To Improve Food Supplies**

The Soviets are trying to improve post-harvest storage, processing, and distribution in order to raise the quality of foods and cut post-harvest losses, which by Soviet estimates exceed 25 percent of the harvest.

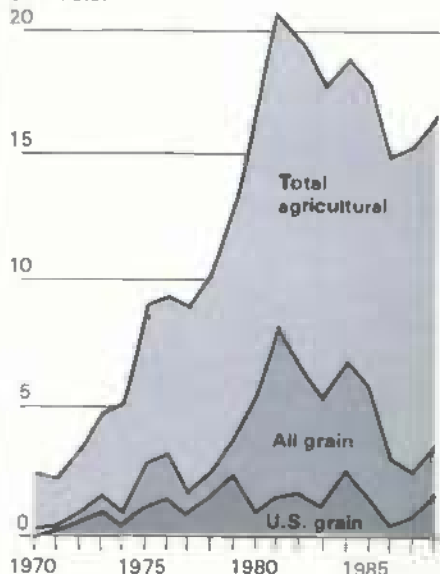
Recently, 70 meat-processing enterprises had no refrigerators, and of the 850 refrigerators at other enterprises, 42 percent had been in operation for 20-50 years. Less than 20 percent of Soviet processing machinery was up to world standards, and 60 percent was "virtually worn out."

Increased investment in processing industries is being augmented by imports of, and joint ventures for, food handling equipment. In early 1988, the military was given increased responsibilities for improving food processing equipment and road building. The medium and heavy industries also have greater responsibility for turning out food processing and handling equipment.

To reach the consumer with quality products, farmers are given incentives to

#### **Soviet Grain Imports Climbing In Last 3 Years**

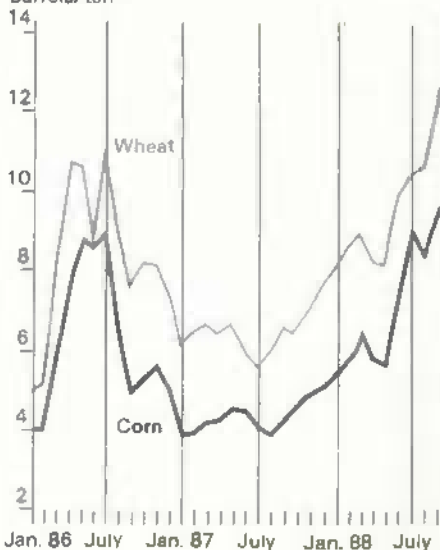
Billion U.S. \$



1988 estimated.

#### **Soviets Must Export More Oil To Import a Ton of Grain**

Barrels/ton\*



\*Barrels of oil exports needed to import 1 ton of grain.

market fruit and vegetables outside the state system. The Soviets are decentralizing marketing to encourage local interest in, and accountability for, food supplies.

USSR officials this fall acknowledged the value of middleman/trader functions, until recently frowned upon as speculative activities. They are heeding recommendations to increase retail and service centers, and encourage consumer cooperatives, especially for food.

[Kathryn Zeimet (202) 786-1624]



#### **Farm Finance**

#### **PRODUCTION COST OUTLOOK**

Rising input prices will push up production costs in 1989. Fertilizer prices are projected to rise by as much as 9 percent from 1988, and tractors and other self-propelled machines by 7 percent. Seed prices may advance 5 percent because of this year's drought-reduced harvest and higher crop prices.

The price index for all production inputs, including interest, taxes and wages, is forecast to rise 5 percent, compared with last year's 7 percent. Costs will rise fastest next year for crops that require more of the inputs with rapid price increases.

For example, corn, which uses more fertilizer than other crops, is projected to show about an 8-percent rise in variable costs per acre. On the other hand, costs for rice, which uses more seed, energy, and farm services but less fertilizer, will rise only 4 percent.

Production costs for the major crops shown on the accompanying table are projected by using 1987 costs per planted acre and applying expected changes for 1988 and 1989 in the index of prices paid for farm inputs.

Economic (full ownership) costs, which reflect the average long-run costs to keep



# Changes in Prices Paid for Production Inputs

Item	1988	1989 1/
	Percent change from previous year	
Selected crop-related items		
Seed	1	5
Fertilizer	8	9
Ag. chemicals	2	5
Fuels & energy	3	2
Farm & motor supplies	7	5
Autos & trucks	8	5
Tractors & self-propelled mach.	6	7
Other mach.	5	6
Building & fencing	1	3
Farm services & cash rent	3	3
All prod. items 2/	9	5
All prod. items including interest, taxes & wages 2/	7	5

1/ Forecast. 2/ Includes feed costs and other livestock-related items.

an acre of land in production, are also presented in the table. Total economic costs include all cash expenses (less cash interest), capital replacement, allocated returns to unpaid labor, operating and nonland capital, and land. Interest is excluded because it implies a certain debt or equity position for the operator.

The cost estimates presented here should not be used to analyze the impacts of acreage reduction programs or the drought. They indicate year-to-year changes in production costs, but are not adequate indicators of total farm income or the current farm financial situation.

The drought's impacts on production costs were not assessed, except for the effect increased crop prices have on seed costs.

Under acreage reduction, production costs could increase if farmers con-

centrate plantings on high-yield-potential land that uses more inputs. The decision to increase input use depends on factors such as the probability of a good crop year, a farmer's ability to bear risk, and the current cash flow situation.

Under drought conditions, costs associated with yields decline when there is a reduced harvest, but preharvest expenses may or may not decrease depending upon type of crop grown and incidence of drought during the growing season.

For example, dry weather in the middle of the cotton growing season will greatly decrease preharvest expenses for that crop, since chemicals are applied throughout the growing season. For small grains, however, most of the inputs and field operations are completed earlier in the season. [Mir Ali (202) 786-1803]

## Projected 1989 Production Costs for Major U.S. Crops 1/

Item	Corn	Grain sorghum	Barley	Oats	Wheat	Rice	Soybeans	Peanut <sup>3</sup>	Cotton
\$/planted acre									
<b>CASH EXPENSES</b>									
Seed	17	6	4	6	7	25	13	86	9
Fertilizer	47	18	15	11	14	31	6	20	24
Lime & gypsum	2	0	--	2	1	0	--	17	2
Chemicals	20	11	6	1	4	6	13	96	55
Custom operations	7	4	3	3	4	49	4	7	22
Fuel, lube, & electricity	13	11	8	8	8	38	10	26	30
Repairs	12	9	10	9	7	32	8	20	21
Hired labor	5	3	6	2	3	31	3	20	29
Purchased irrigation water	--	--	2	0	--	22	0	0	7
Drying	6	1	0	0	0	36	0	44	0
Ginning	0	0	0	0	0	0	0	0	59
Miscellaneous	--	0	1	1	0	0	0	--	1
Technical services	1	--	--	--	--	6	--	1	2
Total variable expenses	132	63	54	43	49	276	56	337	259
(% change from 1988)	8.1	5.8	6.5	6.0	5.8	4.1	4.7	6.1	4.9
General farm overhead	15	7	8	5	7	19	12	39	31
Taxes & insurance	21	9	10	18	9	16	15	13	12
Interest on operating loan	9	5	4	7	4	15	8	26	31
Interest on real estate	19	8	10	10	8	15	15	36	40
Total fixed expenses	64	30	33	40	27	65	50	114	114
(% change from 1988)	7.8	7.4	7.9	7.5	7.5	7.1	7.5	7.4	7.8
Total cash expenses	196	93	87	83	77	341	106	451	373
(% change from 1988)	8.0	6.3	7.0	6.7	6.4	4.7	6.0	6.5	5.8
<b>CAPITAL REPLACEMENT</b>	38	25	26	30	22	56	32	47	48
<b>ECONOMIC (FULL OWNERSHIP) COSTS</b>									
Variable cash expenses	132	63	54	43	49	276	56	337	259
General farm overhead	15	7	8	5	7	19	12	39	31
Taxes and insurance	21	9	10	18	9	16	15	13	12
Capital replacement	38	25	26	30	22	56	32	47	48
Allocated returns to owned inputs:									
Return to operator capital 2/	4	2	1	1	2	6	2	10	5
Return to other nonland capital 3/	9	5	6	8	5	13	6	10	10
Net land return 4/	40	28	24	16	34	39	47	92	50
Unpaid labor	14	11	6	16	6	22	11	21	12
Total, economic costs	273	151	136	136	133	446	182	569	427
% change from 1988	6.0	(1.5)	5.3	3.3	2.4	1.6	(0.4)	6.0	4.5

1/ Projections based on 1988 input quantities by commodity and on forecast input prices. 2/ Variable expense items multiplied by part of the year used and the 6-month U.S. Treasury bill rate. 3/ Value of machinery and equipment multiplied by long-run real rate of return to production assets in the farm sector. 4/ Of total acres rented, percentage of cash- and share-rented acres multiplied by the average cash and share rent. -- = less than \$1. Percentages in parentheses are negative.

## FARM CREDIT SITUATION

Farm lenders remain upbeat about future farm financial conditions despite last summer's drought. Their optimism is based partly on projected cash farm income for 1988, which is expected to range from \$55 to \$60 billion, near last year's \$57 billion. Generally, lenders do not think the drought will sidetrack the farm recovery. However, it might slow the recovery's pace.

Except for the Farmers Home Administration (FmHA), the major farm lender groups are reporting stronger loan portfolios in 1988. Lenders report declines in farm loan delinquencies, loan charge-offs, and foreclosures. However, financial stress, while below its peak of the mid-1980's, remains high by historical standards.

Some farmers who were hit hardest by the drought in the Northern Plains, Mountain, and Lake States will experience

renewed financial stress. Farmers not on a sound financial footing, such as producers whose loans were recently restructured, may have been pushed closer to failure by the drought.

This would hurt some local lenders. However, Federal disaster assistance, coupled with higher commodity prices, will help offset income losses for many producers and protect most lenders.

### Farm Debt Stabilizing?

The large paydown in farm debt appears to be over. Outstanding loan volumes for commercial banks and the Farm Credit System (FCS) have increased in the past year, although life insurance companies and the FmHA continue to show slight declines.

Outstanding farm real estate debt held by commercial banks rose \$1.1 billion in the year ending in June. Whether this increase was due to more stringent collateral requirements for operating loans

or to a shift in market share is uncertain. Traditionally, banks have played a minor role in farm real estate lending.

Farm loan demand has picked up in the past year and should strengthen in 1989. Much of the increase is expected from greater need for operating credit, as farmers gear up to plant additional acres in 1989.

Projected higher production costs, drought-induced income shortfalls, and possibly lower advance deficiency payments could also contribute to greater financing requirements next year.

### Credit Access Looks Good

Creditworthy farmers should have ample access to operating loans next year. Commercial banks are the largest suppliers of operating credit. With low loan-to-deposit ratios, they have the liquidity to meet greater credit needs.

After years of large losses, the FCS is closer to showing an operating profit.

Selected Financial Indicators for Institutional Farm Lenders

Lender and date	Delinquent loans 1/		Net loan charge-offs		Value of acquired properties 4/
	\$ mil.	Percent 2/	\$ mil.	Percent 3/	\$ mil.
<b>FCS 5/</b>					
12/31/84 6/	5,689	8.7	428	0.5	496
12/31/85	6,465	9.7	1,105	1.4	928
12/31/86	8,137	14.9	1,321	2.0	1,093
12/31/87	5,749	11.6	488	0.9	873
6/30/88	5,158	9.1	43	0.1	709
<b>FmHA 7/</b>					
6/30/84	5,937	21.3	117	0.5	NA
6/30/85	6,385	23.0	234	0.9	638
6/30/86	6,835	24.6	379	1.4	758
6/30/87	7,005	26.7	1,119	4.1	777
6/30/88	8,750 8/	34.5	NA	NA	633 8/
<b>Commercial banks 9/</b>					
12/31/84	2,100	5.2	900	2.3	NA
12/31/85	2,600	7.3	1,300	3.3	NA
12/31/86	2,200	7.0	1,200	3.4	414
12/31/87	1,509	5.2	535 10/	1.7	438
6/30/88 11/	1,300	4.5	68	0.1	428
<b>Insurance companies 12/</b>					
12/31/84	1,167	9.6	NA	NA	NA
12/31/85	1,717	15.1	NA	NA	692
12/31/86	1,783	17.0	NA	NA	1,442
12/31/87	1,330	14.3	NA	NA	1,619
6/30/88	1,201	13.3	NA	NA	1,524

NA = not available. 1/ For commercial banks and FCS, loans past due 90 days or more and still accruing interest, plus loans in nonaccrual status. For FmHA, includes only principal loan payments more than 30 days past due. For insurance companies, includes loans past due 90 days or more or in foreclosure. 2/ Delinquent loans as a percentage of all loans held at end of the period. 3/ Net loan charge-offs as a percentage of all loans held at beginning of the period. 4/ Excludes property held by the Banks for Cooperatives, which hold very little farmland. 5/ Includes data for all Farm Credit Banks. 6/ Figures for 1984 are not directly comparable since this was a year of changing to new accounting practices. 7/ Includes only data for Farmer Loan Programs. Loan charge-offs are for the fiscal year. 8/ Change from previous period may reflect a change in reporting procedures. 9/ Data are estimates of national delinquencies and charge-offs of commercial bank-held farm non-real estate loans. 10/ Does not include deferred loan losses. Small agricultural banks (25 percent agricultural loan definition) in agriculture-dependent areas can defer loan losses over several years beginning December 1987. 11/ Preliminary numbers. 12/ Data derived from the "Semiannual Survey of Mortgage Loan Delinquencies and Foreclosures," American Council of Life Insurance, and from life insurance companies.

The system is offering lower interest rates and will be increasingly competitive in credit markets.

Life insurance companies continue to be cautious lenders; some are expressing interest in lending only to larger producers or agribusiness. Life insurance companies specialize in long-term real estate financing.

Competition for high-quality farm loans will remain keen in 1989. This will pressure lenders to keep interest rates down. With carryover stocks reduced after the drought, commercial lenders appear willing to finance another farm production expansion, knowing the history of strong Federal support for agriculture.

The FmHA provides Federal credit assistance to family-sized farms whose operators are unable to obtain credit elsewhere. FmHA's lending authority remains virtually unchanged from its 1988 guidelines. Except for the emergency disaster and direct operating loan programs, this authority should be sufficient to meet the 1989 needs of most high-risk farmers.

Because of the drought and the coming acreage expansion, demand for FmHA's emergency disaster and direct operating loans could exceed funding. In fiscal 1989, \$600 million is available for the emergency disaster program, which provides family farmers credit to assist recovery from natural disasters such as floods and droughts.

FmHA has \$900 million available for direct operating loans. In fiscal 1988, operating loan funding was exhausted by yearend.

The weaker financial condition of some farmers and possible shortages of FmHA direct operating credit could spur greater interest in FmHA loan guarantees. Under this program, FmHA guarantees repayment of up to 90 percent of a loan from another source. Because FmHA committed only 40 percent of its budgeted funding for operating loan guarantees last fiscal year, this funding should be sufficient to meet demand in 1989.

#### **Loan Restructuring Declines**

The number of loans restructured by FmHA and FCS by mid-1988 was down

roughly 50 percent from a year earlier. However, FmHA will begin restructuring more loans during 1989 as it implements the rules of the Agricultural Credit Act of 1987.

The new rules should assist many FmHA borrowers, but they will accelerate FmHA's loan write-offs, which have been mounting in recent years. Loan restructuring can include reamortizing or deferring loan principal and interest, or forgiving debts outright.

Many lenders have expressed concern in the past several years that borrower rights legislation, such as the Chapter 12 farm bankruptcy law, unfairly benefits farmers and hampers the delivery of agricultural credit. Although this concern remains, the impact on credit delivery appears minor so far. Use of Chapter 12 by farmers has not met early predictions.

Chapter 12 filings totaled 1,181 for the first 6 months of 1988, down from 4,212 a year earlier. There are numerous explanations for the decline, but voluntary loan restructuring by lenders in lieu of foreclosure is a big factor. Filings may rise this winter because of the drought.

Inventories of lender-acquired property continue to decline. Aggressive restructuring of delinquent loans, an improving farm economy, and buoyant farm real estate sales are paring down the inventory. Despite the drought, lenders continue to report strong farmland prices in many markets. Many sales of acquired farmland continue to be made for cash and above initial asking prices. However, prices of poor-quality land may slip.

The effects of Farmer Mac, the new secondary market for agricultural mortgages, remain clouded because key underwriting standards have yet to be announced and sales have not begun. An offering of Farmer Mac stock was made to lenders last month.

The new market should be in full operation by next summer. Lenders' reactions are mixed, but with time Farmer Mac could standardize farm lending practices and increase lender competition, reducing farmers' credit costs. [Steve Koenig and Jerry Stam (202)786-1893]



## **General Economy**

### **UPDATE ON THE ECONOMIC EXPANSION**

The economy is slowing from its rapid growth of the last 2 years. A slowdown in the number of new jobs, relatively flat retail sales, and slowing industrial production all point to a retreat from a growth rate that was probably too rapid to keep inflation moderate. As expectations of higher inflation subside, interest rates are likely to stabilize.

The likelihood of recession remains small. Paradoxically, a slower growing economy is likely to allow the expansion to continue past 1989. Too-rapid growth likely would have forced up prices in the next several months, as demand outstripped capacity. That would have increased the probability of tighter money and higher nominal interest rates, which might have ended the expansion.

#### **Signs Point to Slower Growth**

Several indicators point to a slower economic pace. Job growth remains well below its average in the first 6 months of the year. Payroll jobs increased an average 249,000 per month from July through October, compared with 343,000 per month from January to June. The average increase in jobs in goods-producing industries slipped to 34,000 during July-October, after averaging 65,000 in the first 6 months of the year.



The Index of Leading Economic Indicators has been volatile but virtually trendless since the October 1987 stock market collapse. The index rose 0.8 percent between third-quarter 1987 and third-quarter 1988, compared with a 6.4-percent increase between the third quarters of 1986 and 1987.

Real GNP growth slowed to an annual rate of 2.2 percent in the third quarter, brought down by the drought-related decline in farm production and a slight worsening of the real net export deficit. The \$2.3-billion increase in the export deficit (1982 dollars, at an annual rate) contrasts with improvement of nearly \$17 billion the first half of the year.

### *Inflation Still Moderate*

A benefit of decelerating economic growth is less pressure on capacity and therefore fewer inflation worries. Inflation concerns dominated the headlines from early spring through the summer, but the underlying inflation rate has risen only slightly.

Excluding food and energy prices, the Consumer Price Index rose at an average

4.5-percent annual rate from last December through August 1988, about in line with a 5-year average of 4.3 percent. Food prices, however, rose at a 5.6-percent annual rate in the first 8 months of the year, 2.2 percentage points ahead of their 5-year average. Energy prices have fallen 3 to 4 percent a year on average since the end of 1983.

Continued weakness in oil prices will help to keep overall inflation moderate, and further major jumps in food prices are unlikely. Since the dollar's sustained fall from 1985 through 1987, its value has been volatile but trendless. If it remains trendless, pressure on overall consumer prices from rising import prices will be lessened.

### *The Current Expansion Has Had Several Phases*

As the expansion passes its sixth birthday and signs indicate slowing economic growth, some forecasters call for a recession in late 1989 or early 1990. Some of these analysts argue that since expansions historically have lasted about 3 years, this one is more likely to end with each passing month. Their

forecasts, however, appear premature; expansions do not follow a rigid pattern.

Expansions tend to end when the economy must adjust quickly to some changed circumstance, like a tax increase, an abrupt slowing of money supply growth, or a rapid runup in the price of a key commodity, such as oil.

This expansion has been long because different types of demand have risen and fallen at different times, and because at no time has aggregate demand put sufficient pressure on capacity to increase inflation very much.

The expansion has had three distinct phases, and may be entering a fourth phase of more balanced growth.

### *First Phase: Rapid Growth*

The first 2 years—the rapid growth phase—showed quick recovery from the preceding deep recession that reached its trough in November 1982. All components of real GNP grew briskly, with residential building and business spending on plants and equipment leading the recovery.

Capacity utilization rose 11 percentage points from its recession trough. Consumer spending in real terms, though growing a healthy 4.8 percent per year, was matched by income growth, so the savings rate slipped only from 6.2 to 5.8 percent of disposable personal income.

Two problems emerged during the rapid growth phase. First, the Federal budget deficit, which reached nearly \$203 billion in fourth-quarter 1984, was down by only \$20 billion after eight quarters of strong growth. Most analysts had expected much more improvement.

Three Phases of Current Expansion

Indicator	Rapid recovery (4th qtr. '82- 4th qtr. '84)	Slower growth (4th qtr. '84- 3rd qtr. '86)	Renewal (3rd qtr. '86- 2nd qtr. '88)
	Annual percentage rate		
GNP	5.8	3.0	4.0
Consumers	4.8	4.9	2.3
Business plant & equipment	12.3	-2.4	8.4
Residential building	21.0	9.6	-2.7
Exports	5.9	0.3	17.0
Government	2.5	5.9	1.2
Per capita disposable income	3.7	2.4	1.6
Consumer prices excluding food and energy	4.0	1.7	3.6

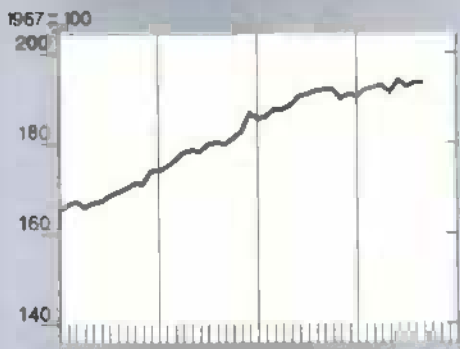
How Other Indicators Fared During Expansion's Phases

	4th quarter '82 (beginning of rapid recovery)	4th quarter '84 (beginning of slower growth)	3rd quarter '86 (beginning of renewal)	2nd quarter '88 (beginning of new phase)
Net exports (\$82 bil.)	11.7	-94.8	-151.8	-92.6
Personal savings rate (%)	6.2	5.8	3.3	3.7
Federal deficit (\$ bil.)	202.6	187.5	206.1	133.0
Unemployment rate (%)	10.7	7.3	7.0	5.4
FRB exchange rate (1973=100)	122.2	147.2	108.3	90.4
Capacity utilization (%)	69.6	80.9	79.0	82.9
3-month T-bills (%)	7.9	9.0	5.5	6.2

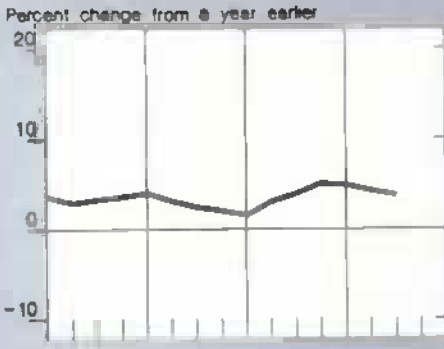


# General Economic Indicators

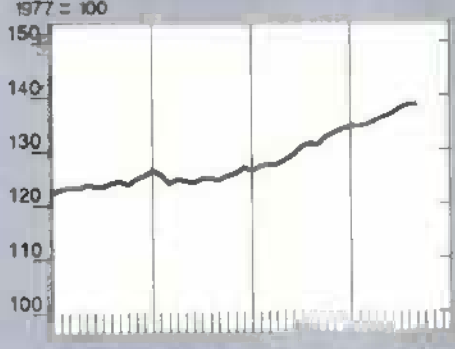
Composite leading economic indicators



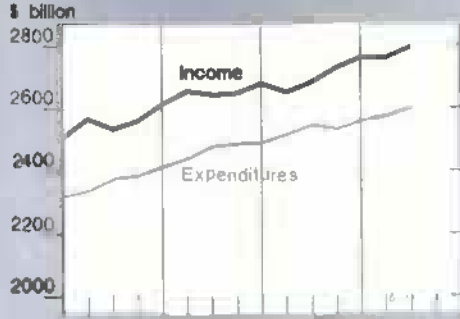
Gross national product<sup>1</sup>



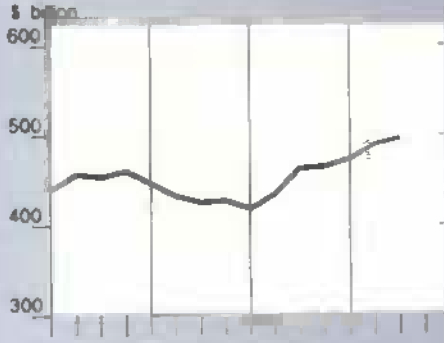
Industrial production



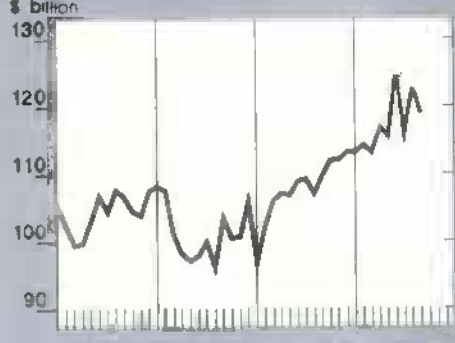
Disposable income and consumption expenditures<sup>2</sup>



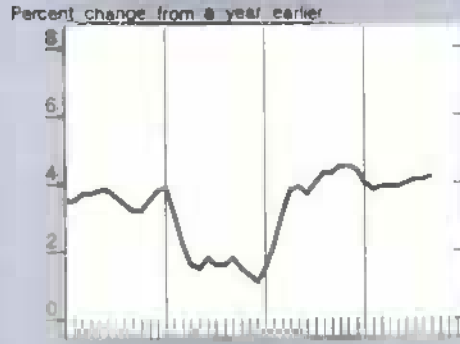
Nonresidential fixed investment<sup>2</sup>



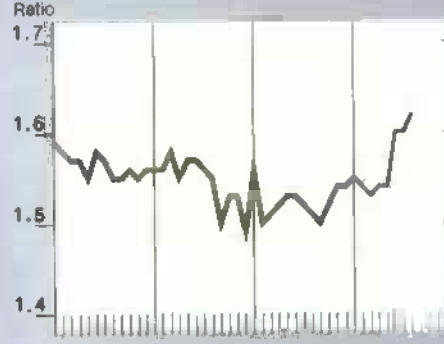
Manufacturers' durable goods orders<sup>3</sup>



Consumer price index



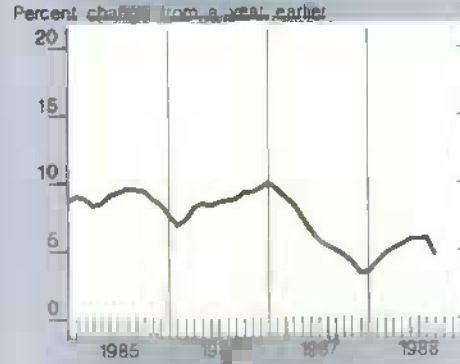
Inventory/sales<sup>4</sup>



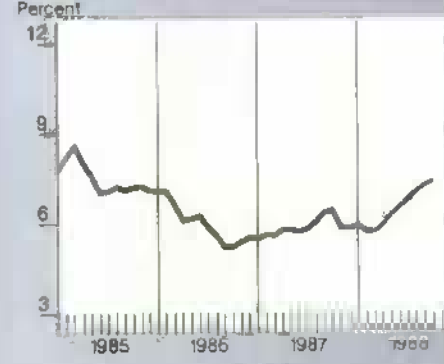
Unemployment rate<sup>5</sup>



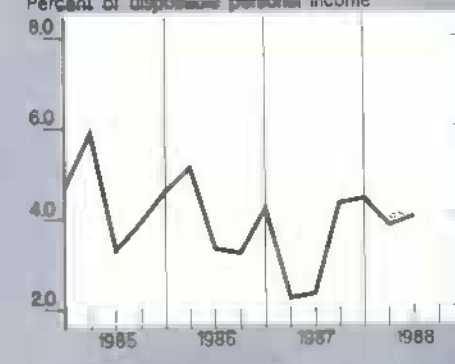
Money supply (M2)



3-month Treasury bill rate



Savings rate<sup>6</sup>



<sup>1</sup>Percent change from a year earlier in 1982 dollars. Seasonally adjusted annual rates. <sup>2</sup>Billions of 1982 dollars, seasonally adjusted at annual rates.  
<sup>3</sup>Nominal dollars. <sup>4</sup>Manufacturing and trade, seasonally adjusted based on 1982 dollar. <sup>5</sup>Seasonally adjusted.  
<sup>6</sup>Calculated from disposition of personal income in 1982 dollars, seasonally adjusted at annual rates.  
Sources: U.S. Dept. of Commerce, U.S. Dept. of Labor, and the Board of Governors of the Federal Reserve System.

Second, the nominal value of the dollar appreciated about 20 percent. The real net export surplus of nearly \$12 billion (1982 dollars) at the start of the expansion deteriorated to a deficit of \$95 billion by the end of the rapid recovery phase. According to some analysts, high Government deficits helped push up inflation-adjusted interest rates, which in turn helped drive up the value of the dollar.

### ***Second Phase Saw Slower Growth, But Strong Spending***

The next seven quarters were characterized by slower real GNP growth, with consumer spending and Government purchases of goods and services providing most of the impetus. Mainly in response to earlier dollar appreciation and slow foreign growth, real exports were mostly flat from the end of 1984 through the third quarter of 1986.

Imports continued to rise, however, so the net export deficit continued to worsen in real terms, reaching its highest historical level (\$152 billion) in the third quarter of 1986.

With lower real income growth, the rate of savings out of disposable personal income slumped from 5.8 percent to 3.3 percent. Industrial production nearly stopped expanding and capacity utilization slipped a percentage point.

The Federal budget deficit rose to just above its level at the beginning of the expansion. Crude oil prices fell dramatically. This benefited consumers, but real GNP was pulled down when business spending on equipment for drilling oil and gas wells dropped abruptly.

### ***Third Phase Featured Improved Federal and Trade Deficits***

The last 2 of the 6 years of expansion were marked by improving exports and higher spending for new plants and equipment. Real GNP growth accelerated to 4 percent, even though consumer spending slowed.

Government purchases grew slowly, largely because of the Gramm-Rudman-Hollings legislation and general fiscal tightness. The Federal deficit improved \$73 billion and the real net export deficit improved \$59 billion.

### ***A Fourth Phase Ahead?***

The expansion may have entered a fourth phase characterized by continued improvement in the net export deficit, although at a slower pace. Export growth will be helped by the relatively low value of the dollar.

Business plant and equipment spending could continue to respond to greater export demand, but it will slow from the recent pace of 8.4 percent. Consumer spending is likely to accelerate slightly, while residential building should recover.

Slowing real growth, coupled with increased capacity resulting from faster business investment spending, should give the economy room to expand without significant upward pressure on prices and wages.

The Federal Reserve has announced that it intends to "err on the side of restrictiveness," suggesting that increases in inflation will be promptly met by tightening of the money supply. In light of that intention, interest rates should rise or fall with changing real growth.

If real growth accelerates, interest rates will rise quickly. If the expected real growth slowdown occurs, on the other hand, this should help to moderate rates.

Continued rising income should provide domestic demand support for agriculture. Interest rates paid by farmers are not likely to change very much. Should the exchange rate continue to fall slowly, U.S. competitiveness in foreign agricultural markets will go on improving.  
[R.M. Monaco (202) 786-1782]



## **Resources**

### **LOW-INPUT PRACTICES**

Low-input agriculture emphasizes farm-produced inputs; enterprise diversity; substitution of labor, land, and management for conventional petroleum-based inputs such as fuel, fertilizers, and pesticides; and practices that protect the environment. The 1985 Food Security Act directed USDA to fund research and education projects geared toward the development and adoption of low-input agriculture practices and products.

Proponents of low-input agriculture argue that such practices can decrease costs while maintaining or only slightly reducing yields, leaving net returns unchanged or perhaps higher than with conventional practices.

An added payoff may be a reduction in environmental contamination from agricultural chemicals and byproducts. Public concern is rising over the decline in groundwater and surface water quality in some areas; soil erosion and agricultural chemicals, especially nitrates and pesticides, may be partly to blame.

### ***Manure, Rotation, and Tillage Practices Affect Input Use***

Some low-input techniques available to many farmers include the use of livestock manure, crop rotations, and reduced or conservation tillage.

Combined crop and livestock operations can substitute manure for some purchased fertilizer. How well this works depends on the type and quantity of manure produced, and on the farmer's waste-management technique.

The nutrient content of manure varies across animal species, with the age and condition of individual animals, with manure-handling and storage methods, and with the timing of application. Large-scale substitution of manure for chemical fertilizer is limited to those areas with highly concentrated livestock operations, such as the hog and dairy areas of the Corn Belt and Lake States.

Crop rotations can include nitrogen-fixing crops such as soybeans or alfalfa as a substitute for purchased nitrogen. Continuous cropping, or monoculture agriculture, is often associated with increased soil erosion, weeds, insects, and plant diseases, and with reduced soil productivity, organic matter, and water-holding capacity.

Crop rotation implies less reliance on a single commodity for income, but may require added labor and machinery and may lead to the production of less profitable crops. Including hay or alfalfa in the rotation requires livestock operations or a hay market.

Tillage systems that require fewer trips across the field, and leave significant

amounts of residue on the soil prior to planting, normally require less labor, energy, and capital, while reducing the potential for water-quality deterioration caused by erosion.

However, some studies indicate that greater chemical use may accompany moderate- or no-till systems. Furthermore, moderate- or no-till methods appear best suited to certain well drained soil types. Some farmers use reduced tillage to be in compliance with provisions of the 1985 Food Security Act.

### 10 States Surveyed On Corn Production Practices

Among the major crops, corn is ideal for examining low-input techniques. Over 95 percent of U.S. corn acres are treated with herbicides and fertilizer, and nearly 40 percent receive insecticides. Corn production accounts for over 40 percent of all fertilizer use, 30 to 40 percent of all herbicide active ingredients, and 10 to 20 percent of all insecticides used in U.S. agriculture. Objective yield surveys provide information on input use in corn production (see the accompanying box).

In the 10 major corn-producing States, surveys showed that farming practices that include manure applications or crop rotations applied less nitrogen fertilizer. Moderate- or no-till corn acres received more purchased nitrogen than acres with conventional moldboard plowing.

The 16 percent of corn acres with manure received an average of 20 pounds less nitrogen per acre than acres without manure application. The reduction was statistically significant for the 10-State region, even though it was significant in only three individual States—Minnesota, Ohio, and Wisconsin.

Information on the quantity of manure applied, or its nutrient content, was not available. Some producers may not lower their fertilizer rates when manure is applied because little manure is used, or because its nutrient content is low or lost through the timing of application. Some growers may view manure application primarily as a disposal practice, and not take the nutrient content into consideration when determining nitrogen requirements.

### Less Nitrogen Used on Rotated Crops

Continuous corn cropping is not widely practiced in the 10 major corn-producing States. Only 28 percent of the 1987 corn crop was grown on land planted to corn during the previous 2 years. Continuous corn is most common in Wisconsin and the irrigated areas of Nebraska. In the 10-State region surveyed, corn grown in rotation used 9 fewer pounds of nitrogen per acre than continuous corn.

Corn grown in rotation also used less insecticide, according to the survey.

Nitrogen Application Rates Associated With 1987 Corn Production Practices

State	Manure			Rotation			Tillage					
	Applied		Not applied	Continuous corn		Other	Moldboard plow		Moderate till 2/		No-till	
	Acres 1/	Nitrogen used		Acres 1/	Nitrogen used		Acres 1/	Nitrogen used	Acres 1/	Nitrogen used	Acres 1/	Nitrogen used
	Percent	Lbs./acre	Lbs./acre	Percent	Lbs./acre	Lbs./acre	Percent	Lbs./acre	Percent	Lbs./acre	Percent	Lbs./acre
Ill.	10	155	157	27	158	157	8	163	87	157	5	148
Ind.	15	122	131	30	142	125	29	133	62	131	9	118
Iowa	23	127	131	23	137	128	12	110	85	133	3	120
Mich.	13	123	118	28	127	116	40	103	53	131	7	120
Minn.	21	89	3/ 122	16	113	116	31	103	67	5/ 121	--	--
Miss.	--	--	3/ 129	11	125	127	9	96	88	5/ 129	--	--
Nebr.	--	--	155	73	153	162	--	--	96	155	--	--
Irr.	--	--	87	17	84	85	8	62	83	88	9	74
Nonirr.	--	--	147	16	146	139	43	130	44	5/ 154	13	128
Ohio	17	110	3/ 147	15	69	47	24	49	74	50	--	--
S.D.	14	49	50	15	69	47	24	49	74	50	--	--
Wis.	42	71	3/ 102	46	100	80	65	80	34	101	--	--
10-State average	16	110	3/ 130	28	137	4/ 126	21	108	74	5/ 133	5	5/ 127

1/ Percent of harvested corn acres. 2/ A residual category that excludes fields using the moldboard plow or no-till. 3/ Statistically different from nitrogen/acre applied to corn land not receiving manure. 4/ Statistically different from nitrogen/acre applied to continuous corn. 5/ Statistically different from nitrogen/acre on moldboard plow tillage. -- = insufficient observations.

# Common Crop Rotations for Land Used in Corn Production

Rotation, 1985-87

State	Corn, corn, corn	Corn, soybeans, corn	Soybeans, corn, corn	Alfalfa, alfalfa, corn
Percent of harvested corn acres				
Ill.	27	51	8	--
Ind.	30	37	8	3
Iowa	23	54	8	4
Mich.	28	5	13	13
Minn.	16	40	6	10
Mo.	11	28	12	3
Nebr.				
Irr.	75	8	3	9
Nonirr.	17	53	3	3
Ohio	16	29	8	10
S.D.	15	17	--	--
Wis.	46	4	3	34
10-State average	28	32	7	8

-- = insufficient observations.

# Insecticide Use by Type of Rotation, 1987

State	Continuous corn acres treated	Noncontinuous corn acres treated
Percent of harvested corn acres		
Ill.	83	33
Ind.	69	33
Iowa	94	28
Mich.	59	31
Minn.	50	17
Mo.	54	38
Nebr.		
Irr.	75	62
Nonirr.	74	27
Ohio	70	31
S.D.	47	7
Wis.	67	37
10-State average	75	29 1/

1/ Statistically different from continuous corn.

# Corn Production Practices by Tillage System, 1987 1/

Tillage type	Herbicides	Insecticides	Manure	Continuous corn
Percent of harvested corn acres				
Moldboard plow	93	44	31	32
Moderate-till	96 2/	41 2/	12 2/	28 2/
No-till	99 2/	40 2/	5 2/	16

1/ 10-State average. 2/ Statistically different from moldboard plow tillage.

Seventy-five percent of the continuous-corn acres were treated with insecticides, but only 29 percent of the noncontinuous-corn acres were so treated. Rootworms and corn borers are the most common pests.

Though the moldboard plow was once common, less than 21 percent of the corn acres in the 10 States were tilled by a

moldboard plow in 1987. Systems including the moldboard plow require an average of three passes over the field, one more than the average in other tillage systems. Moldboard plowing leaves little or no residue from the previous crop on the soil surface.

Because of the heavy power requirements of the moldboard plow, tillage time per acre is twice that of the

# About the Data

Corn production data for this article are from the 1987 objective yield surveys conducted by USDA's National Agricultural Statistics Service. These are probability surveys in which acres are chosen randomly using an area frame sampling technique. There were 1,684 observations in the 10 major corn-producing States. These States accounted for 80 percent of the U.S. corn acreage harvested for grain in 1987.

Since the data are subject to sampling variation, a technique was employed to test whether cropping practices were statistically different between tillage practices and between rotation practices, or whether the difference was due to chance. Where the tables indicate there is a statistical difference, it may be expected to occur 95 times out of 100.

Tillage systems are usually classified by the amount of residue left on the surface immediately after planting. Conventional tillage using a moldboard plow leaves little residue on the surface. At the other extreme, no-till systems leave nearly all the residue from the previous crop after planting the new crop.

Most farmers in the Corn Belt use practices between these extremes. The reduced category is termed "moderate-till" here. Producers in this category typically use chisel plows, disks, or field cultivators. Multiple passes of these machines can result in little or no residue after planting, as with the moldboard plow, but with fewer passes and with the right implements, moderate-till can leave almost as much residue as no-till.

moderate tillage systems. Only about 5 percent of the corn acres harvested in 1987 were under a no-till system. Ohio led the way with 13 percent of its corn acres no-tilled.

Moderate tillage lies between the moldboard plowing and the no-till systems. Both the moderate- and no-till systems usually require less labor and energy than systems that include the moldboard plow. However, survey results indicate that moderate- and no-till corn acres received nearly 20 more pounds of nitrogen per acre than moldboard-plowed land.



Some studies show that when large amounts of crop residue are left on the soil surface, nitrogen is lost into the atmosphere or is tied up by decaying residue. This may explain why commercial nitrogen application rates are higher on moderate-till and no-till acres.

No significant difference in nitrogen application rates was found between no-till and moderate-till systems. The link between tillage systems and fertilizer use may be indirect since factors such as soil type and management may influence both nitrogen use and tillage practice.

### Land Under Moderate-Till Used Less Insecticide, Manure

Moderate-till and no-till practices are associated with increased herbicide and decreased insecticide and manure use. They are less likely to be used with continuous corn. No-till could let weeds flourish if additional herbicides were not applied. Reduced insecticide use is consistent with fewer continuous-corn acres.

However, the falloff in manure use with no-till and moderate-till operations is not explained by survey data. A possible explanation is the need to till the soil to prevent nitrogen loss from applied manure. Another possibility is that in most no-till operations, livestock are not present on the farm.

No-till and moderate-till practices are sometimes associated with low-input agriculture, yet data show that these practices are instead associated with increased use of fertilizers and herbicides. Survey data do not address the effect of no- and moderate-till on other costs such as machinery, energy, labor, and management.

Adoption of low-input practices is not as simple as changing the use of one input or altering a tillage practice. Improved management may be required in order for farmers to use low-input practices effectively and maintain agricultural efficiency and profitability. For example, no-till may decrease erosion but increase herbicide and fertilizer use. The adoption of low-input procedures is further complicated by the multiyear decision framework of many of these practices. [Stan Daberkow, LeRoy Hansen, and Harry Vroomen (202) 786-1456]

### IRRIGATION WATER AND CROP PROGRAMS

In the West, water for agriculture comes largely from rivers and streams. Irrigation projects developed by the Bureau of Reclamation in the U.S. Department of the Interior have made this possible. Producers of irrigated crops pay a contract price for Bureau water that is below the Government's cost of supplying it.

A portion of the water helps produce crops supported by Government

programs—barley, corn, cotton, oats, rice, sorghum, and wheat. The Government supports prices of these crops, and incomes of farmers who produce them, through programs administered by USDA.

Critics of these policies question the appropriateness of some agricultural producers receiving a "double subsidy" from two major Federal programs. An accounting of expenditures for Government crop supports and Bureau irrigation water reveals that:

- only a portion of Bureau-served, program-crop producers participate in commodity programs in any given year, and
- only a portion of Bureau of Reclamation projects still receive Federal irrigation water subsidies according to the definition of subsidy used in the Reclamation Reform Act of 1982.

Producers who fit both these categories do receive a double subsidy.

Commodity program payments and irrigation water subsidies to farmers par-

Corn & Wheat: Program Crop Payments & Irrigation Water Subsidies on Bureau of Reclamation Lands, 1986

Region	Corn		Wheat	
	CP 1/	IWS 2/	CP	IWS
\$/acre				
Pacific Northwest	73	35	188	18
Mid-Pacific	92	43	130	57
Lower Colorado	73	6	158	3
Upper Colorado	163	19	111	42
Southwest	108	2	112	6
Missouri Basin	201	46	95	41
Weighted average	163	43	116	25

1/ CP is estimated per acre commodity payments for corn and wheat in Bureau regions. 2/ IWS is estimated per acre irrigation water subsidy on Bureau lands served by subsidized water.

Commodity Program Payments & Irrigation Water Subsidies to Lands Participating in Both Programs on Bureau of Reclamation Lands, 1986 1/

Commodity	Pacific Northwest		Mid-Pacific		Lower Colorado		Upper Colorado		Southwest		Missouri Basin		Total by crop	
	CP 2/	IWS 3/	CP	IWS	CP	IWS	CP	IWS	CP	IWS	CP	IWS	CP	IWS
\$ million														
Barley	5.55	0.82	1.10	1.64	0.02	0.01	0.67	0.37	0.01	-- 9/	6.77	1.39	12.48	4.22
Corn	6.64	3.21	3.52	1.62	0.02	-- 5/	2.41	0.28	0.29	0.04	56.21	12.91	69.09	18.07
Upland cotton	-- 4/	-- 4/	92.60	26.31	8.98	0.36	-- 4/	-- 4/	5.22	0.03	-- 6/	-- 4/	106.69	26.70
Am. pine cotton	-- 4/	-- 4/	0.01	-- 10/	-- 6/	-- 4/	-- 4/	-- 4/	-- 10/	-- 6/	-- 4/	-- 4/	0.01	0.01
Oats	0.12	0.16	-- 7/	0.08	-- 4/	-- 4/	0.02	0.04	-- 5/	-- 5/	0.09	0.09	0.23	0.36
Rice	-- 4/	-- 4/	108.00	3.22	-- 4/	-- 4/	-- 4/	-- 4/	-- 4/	-- 4/	-- 4/	-- 4/	108.00	3.22
Sorghum	0.01	-- 3/	0.87	0.29	0.03	-- 9/	-- 10/	-- 7/	0.66	0.06	2.64	1.61	4.21	1.96
Wheat 8/	54.12	5.29	8.16	3.56	8.58	0.16	1.33	0.50	1.31	0.07	3.40	2.36	78.09	11.94
Total by region	66.44	9.47	214.15	36.74	17.63	0.54	6.43	1.19	7.49	0.20	69.11	18.36	378.79	66.49

1/ Bureau of Reclamation production regions contain all or part of the following States: Pacific Northwest region, Idaho, Mont., Oreg., Wash., and Wyo.; Mid-Pacific region, Calif., Nev., and Oreg.; Lower Colorado region, Ariz., and Calif.; Upper Colorado region, Colo., Idaho, N. Mex., and Utah; Southwest region, Colo., N. Mex., Okla., and Tex.; Missouri Basin region, Colo., Kans., Mont., Nebr., S. Dak., S. Dak., and Wyo. 2/ CP is estimated total commodity payments for program crops in Bureau regions. 3/ IWS is estimated potential full cost revenue and normal contractual revenue for program crops. 4/ Crop is not on Bureau lands. This figure is the difference between the potential full cost revenue and the project has fulfilled its repayment obligation to the Federal Government. 5/ No commodity payment for this crop because market price exceeds target price. 6/ Wheat payment estimates include paid land diversion payments but do not include Payment-in-Kind (PIK) payments, which would be minor. 7/ Value of the estimated subsidy is less than \$5,000. 8/ The Bureau project in which this crop is grown does not receive an irrigation subsidy.

Sources: "Program Crop Production and Federal Irrigation Waters," Agricultural Resources Situation and Outlook, AR-12, September 1988.

ticipating in both programs in 1986 are shown in the accompanying table. Commodity payments for crops irrigated with subsidized Bureau water were an estimated \$378.79 million in 1986, less than 3 percent of all commodity payments.

The irrigation water subsidies for program crop production were an estimated \$66.49 million, about 25 percent of all Bureau water subsidies. Several large commodity payments and water subsidies were concentrated in single Bureau regions: upland cotton and rice in the Mid-Pacific, corn in the Missouri Basin, and wheat in the Pacific Northwest.

Although commodity payments, which were relatively large in 1986, exceeded water subsidies that year, they were smaller than water subsidies in some other years. Commodity payments fluctuate depending on market prices and Federal agricultural supports. Irrigation subsidies vary less by year because long-term contracts establish the basic water rates.

Regional variation in per acre commodity payments and water subsidies for two representative crops, corn and wheat, are shown in another accompanying table. Market price and crop yields explain much of the variation in per acre program payments, while water subsidy rates explain variation in per acre water subsidies.

Water projects in the Mid-Pacific and Missouri Basin regions are newer and have more years remaining before they complete their contractual payments. Their per acre water subsidies, consequently, are relatively high. Projects in the Southwest and Lower Colorado regions are older and tend to have lower subsidies.

Proposed policies would increase Bureau water prices or exclude recipients of the water from participation in commodity programs. The availability of Bureau irrigation water on a piece of land tends to raise the market value of the land. Increasing Bureau water prices could make farmers who purchased their land after the benefits of Bureau water were capitalized into land values pay twice for the irrigation water.

[Michael Moore (202) 786-1411 and Catherine McGuckin (202) 786-1433]



## Food and Marketing

### FOOD PRICE SUMMARY FOR 1988

Despite earlier fears that drought-induced food shortages would drive prices sharply higher this year, the rise in the Consumer Price Index for food is expected to average about the same as 1987's 4.1 percent.

In June, ERS forecasters raised their estimate of the 1988 food price increase by 1 percentage point, solely on the basis of the drought. Food supplies remain ample, augmented by large supplies of red meat and poultry, which will push per capita meat consumption to a record high this year.

Prices for a number of foods rose sharply during the third quarter of 1988, but not all the increases resulted from the drought. Higher processing and marketing costs and strong consumer demand also contributed.

Third-quarter price increases for cereals and bakery products, fresh vegetables, and processed vegetables can be attributed, in part at least, to the drought. Price increases for poultry, which had a major impact on the total CPI for food in the third quarter, were due to strong consumer demand.

Retail prices of cereal and bakery products rose sharply in July and August,

partly reflecting smaller supplies and higher farm prices for food grains. The drought significantly cut yields of oats, barley, durum wheat, and other spring wheats. Farm prices of these grains averaged 50 to 60 percent above a year earlier.

However, since the farm value of cereal and bakery products represents only about 10 percent of the retail price, the rise in the farm price could add 5 to 6 percent at retail.

In addition, food manufacturers experienced higher costs for labor, packaging, advertising, and other marketing expenses. Costs of paperboard, plastic wraps, and foil wraps used in packaging rose 10 to 18 percent over the past year, adding another 1 or 2 percent to average retail cereal and bakery prices. As of September, the CPI for cereal and bakery products averaged 8.1 percent above a year earlier, reflecting the increase in input costs.

### *Drought Pushed Up Prices of Fresh and Canned Vegetables*

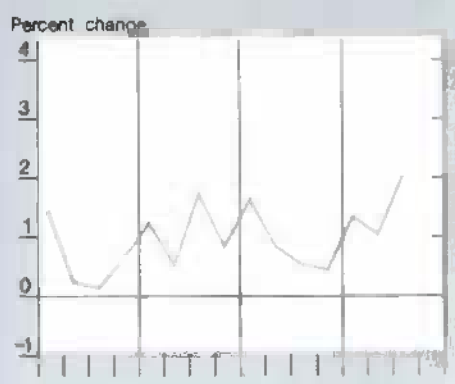
The drought caused most of the third-quarter rise in the fresh vegetable CPI. Although most fresh vegetables are produced under irrigation in California during the summer, significant vegetable volume is produced across the United States. Food stores supplement West Coast-grown supplies from local sources. Roadside vegetable stands and home gardens are additional sources.

The drought damaged many local vegetable crops, leaving grocery stores dependent on California and other distant sources. Consequently, fresh vegetable supplies were tight and prices climbed about 10 percent above a year earlier.

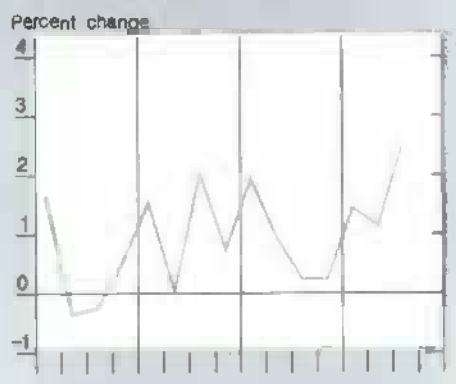
Processed vegetable prices also increased because of the drought. Most of the green peas, snap beans, and sweet corn grown for canning come from the Corn Belt. Because these crops were damaged by the drought, canned vegetable production fell significantly and prices rose sharply.

Vegetables grown for freezing were not affected by the drought, but retail prices for frozen peas, snap beans, and sweet corn may rise as consumers substitute frozen vegetables for canned.

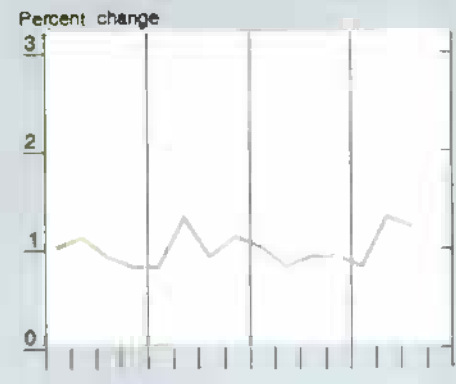
CPI: Total food<sup>o</sup>



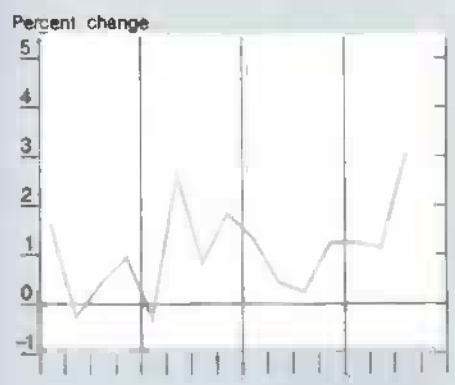
CPI: Food at home<sup>o</sup>



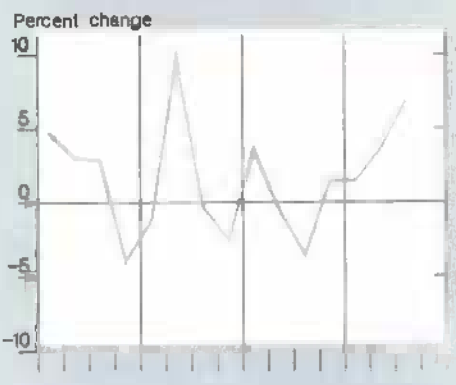
CPI: Food away from home<sup>o</sup>



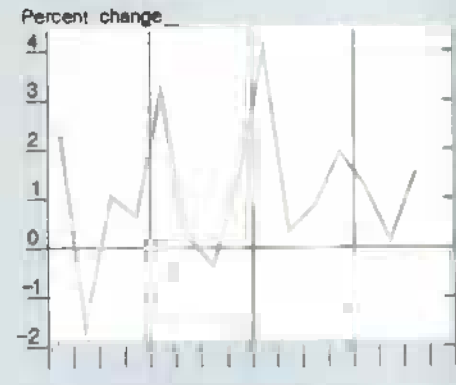
Retail cost of food<sup>1</sup>



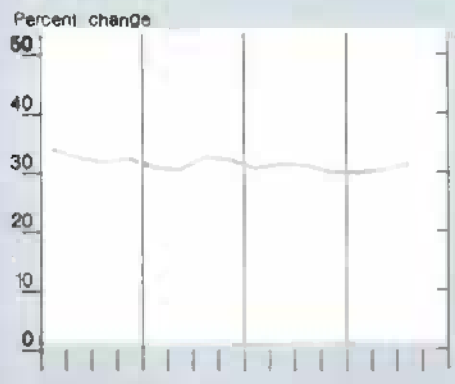
Farm value of food<sup>1</sup>



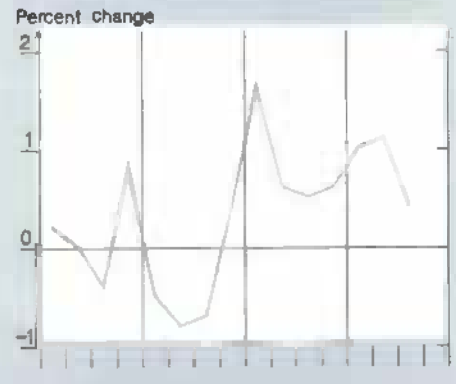
Farm-retail spread<sup>1</sup>



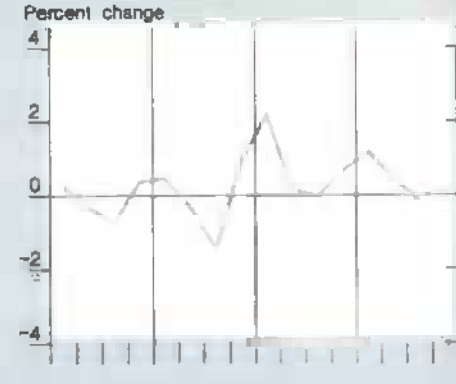
Farm value/retail cost<sup>1</sup>



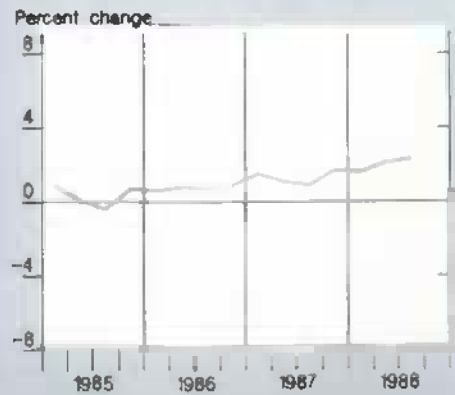
Food marketing cost index<sup>2</sup>



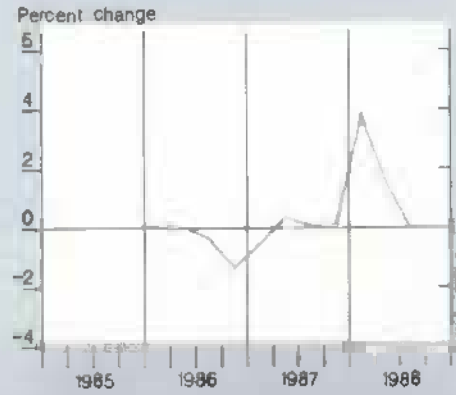
Index of hourly earnings<sup>3,4</sup>



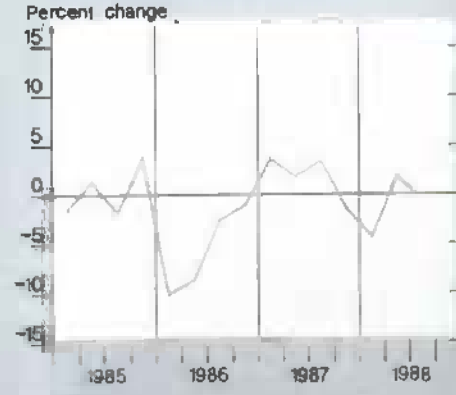
Index of packaging prices<sup>4</sup>



Index of rail freight rates<sup>4</sup>



Index of energy rates<sup>4</sup>



<sup>o</sup>CPI unadjusted. <sup>1</sup>Index based on market basket of farm foods. <sup>2</sup>Index of changes in labor, packaging, transportation, energy, and other marketing costs.  
<sup>3</sup>In food retailing, wholesaling, and processing. <sup>4</sup>Component of food marketing cost index.  
All series expressed as percentage change from preceding quarter, except for "Farm value/retail cost" chart



## Consumer Demand for Meat Has Been Strong

Part of the rise in the 1988 CPI for food is due to strong consumer demand for meats, particularly chicken. While chicken production has increased 4 percent for the year, retail prices for whole chickens have risen more than 5 percent. Chicken demand rose primarily because fast food firms heavily promoted new chicken items.

The apparent success of the chicken product promotions indicates that consumer demand for food away from home remains strong. Strength in consumer demand this year comes from higher incomes and the decline in the unemployment rate. Disposable personal income for 1988 has increased about 3 percent after adjustment for inflation. [Ralph L. Parlett (202) 786-1870]

## THE DROUGHT & FORWARD CONTRACTING

Grain farmers can lock in the price for part of their expected production by entering into a forward contract. This year, however, many producers may have been sorry they forward contracted, because cash prices at harvest were generally higher than contract prices. Farmers are honoring their contracts even though production in some areas has been less than contracted amounts.

Farmers who forward contracted corn in the late spring at prices they thought were favorable—\$1.70 to \$2.00 per bushel—watched futures prices shoot up to \$3.65 in late June.

Elevators faced risks because farmers who defaulted on contracts had the potential to draw elevators into lengthy legal proceedings. Over the short run, elevators would have been forced to absorb the losses. With the price runup in June and July, elevators also confronted sizable margin calls, in some cases reaching \$1 million per day.

As mandated by the Disaster Assistance Act of 1988, ERS recently studied the questions posed by forward contracting during the drought. The study indicates that farmers are not having widespread difficulties meeting contract obligations. Also, the financial effects on elevators are far less than was feared at first.

### Elevator Forward Contracting

Commodity and area	Buyers using contracts 1/	Volume bought by contract 2/
	Percent	
Corn, E. Corn Belt	55.1	21.7
Corn, W. Corn Belt	48.8	11.7
Soybeans, E. Corn Belt	74.6	33.2
Soybeans, W. Corn Belt	70.8	16.3
Spring wheat, N. Plains	28.0	7.4

1/ Percent of elevators buying the commodity from farmers. 2/ Percent of total volume purchased by elevators from farmers.

### Expected Outcomes of Elevators' Forward Contracts

Contract outcome	Corn		Soybeans		Spring wheat
	Eastern Corn Belt	Western Corn Belt	Eastern Corn Belt	Western Corn Belt	Northern Plains
	Percent of contracts				
Fulfilled as originally negotiated	94.7	98.6	97.2	98.7	97.4
Renegotiated	2.4	1.3	0.6	1.2	1.9
Defaulted	0.8	0	0.2	0	0.7
Uncertain	2.1	0.1	2.0	0.1	0

### Forward Contracting Practices Differ by Region

Background information on farmers' forward contracting practices provides a framework for answering the questions raised by the drought. Telephone surveys of 325 elevator managers in 13 States<sup>1</sup> suggest that forward contracting varies by region.

The eastern climate, with more reliable rainfall, has more certain yields; therefore farmers have a better chance of meeting contract terms. This makes contracting more common in the Eastern Corn Belt than in the Western Corn Belt and Northern Plains.<sup>2</sup>

<sup>1</sup> The States were surveyed by the National Agricultural Statistics Service during September 19-23. The choice of States was based on production volumes and drought severity. The phone survey was supplemented with field interviews of 33 elevator managers during the same week, phone interviews with 28 bankers and brokers, and discussions with grain marketing specialists. <sup>2</sup> For purposes of this study, the Eastern Corn Belt includes Ill., Ind., Ky., Mich., Ohio, and Wis.; the Western Corn Belt includes Iowa, Minn., Mo., Mont., Nebr., N. Dak., and S. Dak.; the Northern Plains (for spring wheat) includes Minn., Mont., N. Dak., and S. Dak.

### It Helps To Know The Language

**Forward contract.**—An agreement between two parties (e.g., a farmer and an elevator) to deliver and make payment for a commodity at a future date. The quantity, price, grade, and place of delivery are set by the contract.

**Renegotiation.**—A change from the original contract specifications on the quantity, price, grade, time, or place of delivery.

**Hedging.**—Forward buying or selling in the futures market to protect against fluctuations of positions held in the cash market. For example, at planting time a farmer can sell corn on the futures market to lock in a price. At harvest time, the corn can be sold for cash and the futures contract can be bought back. Losses or gains in one market are about offset by gains or losses in the other.

**Margin call.**—A request from a brokerage firm to a customer for additional margin (funds set aside to ensure performance of the contract) when the customer's equity is diminished by a falling value of the contract.



Eastern Corn Belt elevator operators said they generally purchase over 20 percent of their corn and soybeans under contract. Elevators farther west said they purchase less than 16 percent of their grain under contract.

Forward contracting also varies by commodity. It is less common for wheat than for corn and soybeans, because wheat is most often grown in the Northern Plains, where rainfall is more uncertain. Between one-half and three-fourths of elevators buying corn and soybeans from farmers use forward contracts. In contrast, less than one-third of elevators receiving wheat offer forward contracts.

### ***Renegotiation and Default Are Minimal***

Fewer forward contracting problems resulted from the drought than were expected at midseason, even in the Eastern Corn Belt. Elevator operators responding to the survey indicated that over 95 percent of their outstanding contracts likely would be fulfilled as originally negotiated. About 1-2 percent, they thought, would be renegotiated by harvest. Defaults were pegged at less than 1 percent.

Several factors explain why forward contracting was less of a problem than expected. Contracting activity typically intensifies just after planting and continues through the growing season as yields become more certain. As the drought became evident, forward contracting dropped off sharply in June.

Farmers rarely forward contract more than 30-40 percent of their expected crop until they are confident about yields. Thus, forward contracting for harvest delivery had all but ceased by early to mid-July. Field interviews suggest that farmers were often left holding forward positions that were no more than 10-20 percent of a normal crop. Nevertheless, in some cases the contracts ended up representing 50-80 percent of the harvest.

Rainfall in parts of Ohio, Indiana, and Illinois in late July and early August saved

many crops from disaster. Yield prospects improved enough to allow many farmers who had forward contracted a large portion of their expected crop in the spring to meet contract terms. Farmers' chances of delivering had appeared abysmal only a few weeks earlier.

Although contracting problems were minimal overall, some Eastern Corn Belt elevator operators in areas severely hurt by the drought stated that between one-quarter and one-third of their outstanding contracts with farmers had been renegotiated. Some sent out notices in July encouraging farmers to renegotiate if they expected production shortfalls. However, managers at these elevators anticipated that defaults would be low.

### ***Buyouts Were Major Settlement Form***

Elevators usually allowed farmers to renegotiate their contracts if they had a production shortfall or wanted to speculate on higher prices. About 84 percent of the renegotiations involved farmers' buying out the contract at the difference between the price at the time of renegotiation and the contracted price, plus a service fee.

Elevators charging service fees typically required 5-15 cents per bushel to defray transaction costs, regardless of the commodity. About 10 percent of the renegotiations involved the farmers' paying the full price difference without any service charge.

A few contracts were settled by other methods. Elevators that allowed farmers to defer delivery, or that did not require a service fee, were typically in areas badly hurt by the drought. About 4 percent of the renegotiations involved deferring delivery to the 1989 crop. Write-offs were uncommon and used only for very small contracts. Most elevator operators indicated that farmers who threatened default would be taken to court.

### ***Margin Calls Affected Elevators***

Forward contracting problems can impair the financial strength of an elevator. Elevators that hedged in early May faced margin calls of \$1.50 or more per bushel

for corn and \$3.50 or more for soybeans. These margin payments could have turned into losses for the elevators if farmers had defaulted on their contracts. Contract defaults and write-offs also caused stress.

The extent that elevators hedge to offset forward-contracting risks varies among commodities. Corn Belt elevators offset about 50 percent of their forward-contracted corn by hedging in futures, and most of the remainder through forward sales to another buyer.

A slightly lower proportion of the contracted soybean volume in the Corn Belt is hedged. Less than 20 percent of spring wheat volume is offset with hedges; about 80 percent is sold to another buyer.

Borrowing money to meet margin calls on futures positions held to offset forward contracts caused financial stress for only a few elevators. Slightly over 5 percent of the elevators reported borrowing to meet these margin calls. Only 2 percent indicated that they borrowed more than 10 percent of their net worth to meet margin calls.

Similarly, only about 5 percent of the elevators expected to incur losses because farmers failed to meet commitments. Only 1 percent of the elevators expected losses over 10 percent of their net worth because of farmer defaults or write-offs.

Some elevators faced other woes, however, such as sizable margin calls unrelated to forward contracting. Many encountered interest expense for margins on futures positions that offset inventory purchased from the Commodity Credit Corporation. In addition, many elevators face lower revenues from reduced grain handling and Government storage. [Joy Harwood and Linwood Hoffman (202) 786-1840; Bruce Wright and Richard Heifner (202) 786-1868]

## EFFECTS OF COTTON SPOT PRICE CHANGES

Farm prices of upland cotton (unadjusted for seasonal patterns) declined by an average of 7 percent per month, from \$0.612 to \$0.526 per pound, during June-August 1988, before nearly leveling off in September.

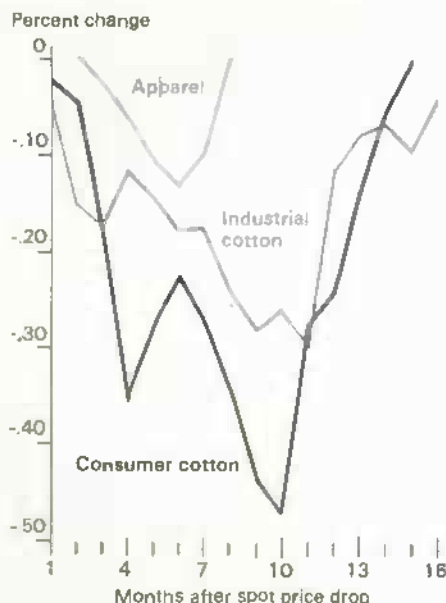
How long before these declines are felt at the industrial and consumer levels? How do changes in cotton's spot market price influence the price of cotton fabric as an industrial input, the price of finished cotton fabric for consumers, and the general retail price of apparel?\*

Generally, the industrial cotton price, consumer cotton price, and general apparel price are much less volatile than the spot price of cotton. The three non-farm prices reflect relatively little of the cotton crop's fluctuations; instead they reflect movements in fabric and clothing markets throughout the year, a pattern far smoother than the raw cotton market's ups and downs.

A cotton textile model was "shocked" with a 7-percent decrease in the spot price of cotton. The accompanying

\* For parallel studies on wheat and feed grain price changes, see the October and November issues of *Agricultural Outlook*.

How a Drop in Cotton Spot Price\* Affects Industrial & Consumer Prices



\*Spot price falls 7 percent.

### How the Model Was Constructed

Historical movements of the cotton spot price and related prices are summarized using the time-series technique of vector autoregression (VAR) described in the October 1988 issue of *Agricultural Outlook*.

The monthly Bureau of Labor Statistics (BLS) prices represent the spot market price for cotton, the industrial price paid for cotton as an input (industrial cotton price), the consumer price of cotton fabric (consumer cotton price or finished cotton price), and the retail price of general apparel, less footwear.

The estimation period is February 1978 through July 1987. Estimated equations adjust for seasonal price patterns.

figure summarizes how past industrial cotton prices, consumer fabric prices, and apparel prices would have responded to the shock.

All three nonfarm prices fall after the drop in the spot price, but the changes are relatively small. Apparel price declines are less than those of the industrial fabric and finished fabric prices.

The rate of decline in the industrial price strengthens for 11 months. The downward pressure then moderates and, after about 16 months, disappears. Over the 16 months, the industrial price falls about 2.5 percent.

The spot price, meantime, falls further, according to historical relationships, to 18.4 percent below what it was before the shock. The cumulative decreases in industrial price amount to 13.5 percent of the cumulative decrease in spot price over the 16 months.

The spot price, represented by the producer price index (PPI) for raw cotton, is used to describe the price of cotton close to the farm gate. This is the index of the spot market average price of raw cotton with grade 41 and staple 34.

The industrial cotton price is represented by the index for "grey fabrics, cotton broadwovens" within the textile products and apparel group of the PPI's. The consumer cotton price is represented by the index for "finished fabrics, cotton broadwovens" within the textile products and apparel group of the PPI's.

The retail apparel price is represented by the Consumer Price Index of all urban consumers for apparel commodities, less footwear.

The drop in the consumer cotton price intensifies for 10 months, then slows and dissipates after 14 months. The pattern is similar to that for industrial cotton: The cumulative decrease in the consumer cotton price over 14 months amounts to about 15.5 percent of the cumulative decline in the spot market price.

The apparel price does not begin to decline until 3 months after the shock in the spot price. This delay appears to be the historical reaction time required before the spot market price shock is felt at the retail apparel level. The peak strength of the drop in apparel prices is reached in about 6 months and downward pressure is no longer felt after 7 months.

The series used for apparel includes prices of fabrics such as polyester and wool, as well as cotton. Consequently, one expects shorter and milder responses in the apparel price than in the industrial and consumer cotton price. The cumulative price drop during the first 7 months for apparel is only 2 percent of the cumulative change in the spot price. [Ronald A. Babula (202) 786-1785, David A. Bessler (409) 845-3096]



## Agricultural Policy

### PUBLIC INVESTMENT IN AG RESEARCH

Increases in productivity (output per unit of input) help the United States remain competitive with the rest of the world in agricultural production. Public agricultural research is one of the few policy instruments the Government has to increase productivity.

The income and environmental consequences of new technology are becoming as much causes of concern as productivity itself. Public agricultural research is viewed by some as leading to larger commodity surpluses and lower prices, thus hurting farm income. There is rising concern about the effect of farm chemicals on water quality.

There also is increasing interest in the appropriate division between private and public agricultural research, especially for biotechnology.

#### *Agricultural Research Shifts Emphasis*

Both private and public agricultural research seeks higher yielding crop varieties, better livestock breeding practices, more effective fertilizers and pesticides, better farm management practices, and new uses for farm products.

Agricultural research not only increases productivity, but helps keep productivity from falling. For example, yield gains for plant varieties tend to be lost over time because pests and diseases evolve which make once-immune varieties susceptible.

Public research is performed in State agricultural experiment stations, land grant and other universities, and USDA. In USDA, major research is done by the Agricultural Research Service, Economic Research Service, and Forest Service. The agricultural extension system disseminates results to farmers.

In recent years, about 60 percent of State agricultural research funding has been from the State legislatures. The 40 percent which is Federal is allocated among States by a formula based on the number of farms and the size of the rural population. Public research expenditures have increased steadily the past 60 years, reaching \$1.2 billion annually by the mid-1980's.

Though Federal support remains strong, there has been a slow shift from traditional emphasis on productivity to research on distributional and environmental effects. The Agricultural Research Act of 1988, although it died when Congress adjourned in October, would have provided for research on new uses for farm products and on risk associated with microbiological and chemical agents.

Agricultural research by the private sector is mainly on farm machinery, chemicals, and biotechnology. Private research expenditures have increased dramatically the past two decades, totaling an estimated \$2.1 billion a year by the mid-1980's.

#### *Why Should the Government Conduct Agricultural Research?*

Public agricultural research has been justified on the grounds that research results are public goods. If someone consumes a private good (such as bread), it is not available for someone else. By contrast, consumption of a public good, such as a new farm practice, does not decrease the use of that good by someone else. This implies that research results should be made available to all potential users to maximize the contribution to society.

A private firm is not likely to engage in research unless it can appropriate most of the rewards through patent rights and higher prices. However, the laws do not permit patents on innovations such as crop rotation or plant spacing. Public institutions need not rely on patent protection to recoup costs and can disseminate their research results through existing extension services.

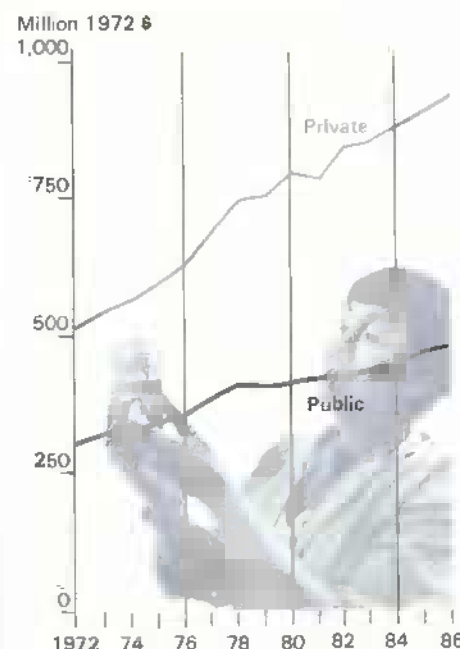
Results of public research done in one State can often be used in another. This suggests the need for Federal in addition to State funding of research done in the States. However, application of results from another State may be limited, so each State may still need to perform some of its own research.

#### *What Is the Appropriate Mix of Public and Private Research?*

Public and private research can complement one another. Private firms engage primarily in projects that yield immediate or near-term commercial applications. However, without knowledge brought about by basic research, applied research results would dry up. This suggests that the public sector should continue to fund basic research as well as some applied research.

Biotechnology results are usually patentable, because of recent changes in U.S.

#### Private Spending for Ag Research Is Growing Faster Than Public





patent law on life forms. However, products of biotechnology research may cause unforeseen harm to human health or the environment.

For example, there is fear that genetically engineered organisms released into the environment may mutate, multiply uncontrollably, or disturb the environment. This implies a need for some public regulation of private biotechnology research.

Biotechnology is expected to have a major impact on farmers, farm input industries, and food marketers. Whether it will affect some farm sizes more than others is still an open question. While most farm technologies in the past (e.g., mechanical innovations) have tended to favor large farms, many biotechnology innovations have the potential to affect large and small farms equally. Examples include improved seeds and animal growth hormones.

#### *What Is the Payoff to Public Agricultural Research?*

Farmers benefit from public agricultural research in the short run because of lower production costs and higher profits. The long-run beneficiaries are consumers, who pay lower prices for farm products.

Farmers also benefit when research increases their competitiveness in world markets. The economy benefits when the increased competitiveness of agriculture earns foreign exchange and helps reduce the U.S. trade deficit.

Public agricultural research can help reduce the inequality of incomes and living standards. This is because low-income people spend a larger share of their income on food. Also, the major portion of public agricultural research is funded by middle- and high-income taxpayers.

Most studies of the benefits of public agricultural research relative to its costs find high rates of return, usually 30 to 60 percent. This is much higher than for most other research in either the private or the public sector.

The estimated returns to public agricultural research may be biased upward because the only costs usually considered

are direct public expenditures. Besides direct expenditures, agricultural research and the resulting new technologies have other costs, such as the social cost of pollution caused by the increased use of cheaper chemicals.

Most studies do not take into account the costs imposed on farm workers displaced by technological change. These workers suffer moving expenses as well as lost incomes. People who are forced to move from rural to urban areas sometimes cannot find jobs immediately. On the other hand, many displaced farm workers may eventually find nonagricultural jobs that pay a higher wage than they would have earned if they had stayed in agriculture.

When research increases the output of agricultural commodities at a faster rate than demand grows, prices tend to fall to balance supply and demand unless the prices are artificially maintained by Government supports.

Rather than cut public agricultural research to reduce the surpluses, new commodity programs could stabilize farm income and expand domestic and foreign use without at the same time leading to large commodity surpluses. [Jet Yee (202) 786-1459]

#### **Upcoming Economic Reports**

Summary Released	Title
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Food Marketing Review, 1987, AER-590. (Price \$6.00.) Stock number 001-019-00594-7.

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## GATT Negotiations: Paving the Way for Liberalized Trade In Agriculture

Actions by governments in the 1980's to support producer prices and incomes, protect domestic markets, and expand export sales have caused mounting tensions and threatened international trade wars. Agricultural programs such as these contribute to price volatility in world markets, encourage price-depressing surpluses, and carry heavy costs for consumers and taxpayers.

These problems have brought agriculture to the forefront of the current round of multilateral trade negotiations under the General Agreement on Tariffs and Trade (GATT). The GATT was first established in 1947 among 23 countries. There are now 93 full-member countries, and an additional 31 countries also abide by GATT rules.

The Uruguay Round, the eighth round of GATT negotiations since the agreement was established, is headed into its second phase. At the midterm review in December, negotiators will set the agenda for the remaining 2 years of the Uruguay Round. These closing negotiations may result in an agreement to liberalize world trade in agricultural commodities.

The eighth round began in September 1986 at Punta del Este, Uruguay. There, GATT ministers defined the objectives for the round and the subjects to be negotiated. Although agriculture is but one of 14 subjects, liberalization of agricultural trade is a critical issue and a top priority for the United States.

The Ministerial Declaration launching the round formally recognized that global reforms are needed in domestic agricultural policies as well as in trade policies, and that current GATT rules and procedures regarding world agricultural trade are inadequate.

### *Focus Is on Reducing Subsidies, Increasing Market Access*

Previous rounds of negotiations under GATT had only limited success in dealing with agricultural trade problems, particularly nontariff trade barriers such as import quotas and export subsidies. Nontariff measures are often linked to domestic price support programs that promote national goals of increasing food self-sufficiency or supporting farm income.

The effects of domestic agricultural policies on trade are not always apparent. Because GATT rules and principles apply to international trade, it is not certain to what extent they may apply in resolving international conflicts stemming from domestic policies.

Negotiators in the Uruguay Round are seeking to strengthen the role of GATT. Three other areas of focus in the agricultural negotiations are: (1) reduction in the use of domestic and export subsidies, (2) improvement of market access, and (3) harmonization of food health and safety regulations.

Agricultural topics may be addressed in several GATT negotiating groups. Three groups cover agricultural products. The Negotiating Group on Agriculture is limited to bulk commodities, including grains, meat and dairy products, sugar, cotton, and selected oilseeds and oils.

Closely related are negotiations by the groups on Tropical Products (coffee, tea, cocoa, select oilseeds and vegetable oils, tobacco and products, rice, manioc, jute and hard fibers, rubber, and tropical roots, fruits, nuts, wood and wood products), and Natural Resource Products (primarily forestry products). In addition, the groups on Tariffs, Nontariff Measures, and Subsidies and Countervailing Measures may deal with agricultural issues.

### *Degree and Timing for Reform Are Critical*

Six proposals for implementing agricultural reform have been submitted. They come from:

- The United States,
- the EC,
- Japan,
- Canada,
- the Cairns Group (Argentina, Australia, Brazil, Canada, Chile, Colombia, Hungary, Indonesia, Malaysia, New Zealand, Philippines, Thailand, and Uruguay), and
- the Nordic countries (Finland, Iceland, Norway, Sweden).

The proposals range from complete elimination of policies with adverse trade effects to limited policy reductions on particular commodities in specified countries. An additional proposal was submitted by several food importers, including Jamaica, calling for clarity in the provisions offered to developing countries and urging greater regard for the positions of net food importers in the negotiations.

Negotiating efforts center on ironing out differences and highlighting common elements of the proposals. The three critical

## How the GATT Proposals on Ag Trade Compare

Country	Objective	Short-term measures	Long-term measures	Provisions for developing countries
<b>United States</b> (proposal submitted July 1987)	Complete elimination of policies or subsidies that adversely affect production, consumption, and trade of agricultural products for all commodities in all countries.	None	<p>Subsidies to be phased out over 10 years, except "decoupled" payments (direct payments to producers that are not tied to production or marketing levels) and bona fide food aid.</p> <p>Harmonize food and sanitary safety regulations to minimize trade effects.</p> <p>Use a standardized measure of government support afforded agricultural producers, such as Producer Subsidy Equivalent (PSE), for negotiating commitments.</p>	Elaboration on U.S. proposal provides for special and differential treatment of developing countries according to level of economic or agricultural development. Subsidies are to be noncommodity specific for economic development. Bound tariffs to be used in lieu of import restrictions.
<b>European Community</b> (Oct. 1987)	Reduction of policies that affect trade in key countries for all major commodities.	Stabilize world markets for grains, sugar, & dairy using market sharing agreements. Freeze support for grains, rice, dairy, sugar, beef, and veal at 1984 levels.	<p>Reduce overall support measures while maintaining market shares using request and offer approach.</p> <p>Common Agricultural Policy (CAP) principles not negotiable.</p> <p>International harmonization of sanitary and food safety regulations.</p> <p>Improve GATT rules and principles to assure continuation of negotiation process.</p> <p>Use PSE or similar measurement adjusted for production control measures and world price and exchange rate fluctuations.</p>	Special and differential treatment of developing countries allowed based on needs.
<b>Calms Group</b> (Oct. 1987)  Argentina Australia Brazil Canada Chile Colombia Hungary Indonesia Malaysia New Zealand Philippines Thailand Uruguay	Elimination of policies affecting trade for all commodities in all countries.	<p>Freeze all access barriers, trade-affecting subsidies, and sanitary and food safety regulations operating as nontariff trade barriers. Immediate across-the-board cuts in trade-distorting production and export subsidies by an agreed percentage and a commitment to increase market access by a determined percentage. Credit to be given in an intermediate-term program for short-term actions.</p> <p>Intermediate-term: During a 10-year period, countries will reach set targets of reduced overall support levels and comprehensively deal with trade-affecting policy measures across a wide range of commodities according to a negotiated schedule of specific and monitorable commitments.</p>	<p>Ban all nontariff barriers, variable levies, minimum import prices, and other measures not explicitly allowed in GATT. Bind tariffs at low levels or eliminate. Prohibit use of trade-affecting subsidies and government support measures except trade-neutral ones that assist domestic consumption, research, extension, inspection, grading, market information, etc.</p> <p>Harmonize sanitary and food safety measures and minimize adverse trade effects where harmonization is not possible.</p> <p>Use PSE-type measurement for negotiations.</p> <p>Eliminate all special treatment provisions currently in place in the GATT.</p>	Longer adjustment periods for developing countries.

Country	Objective	Short-term measures	Long-term measures	Provisions for developing countries
Canada (Dec 1987)	Support Cairns Group proposal.	Freeze all access barriers, trade-distorting subsidies, and sanitary and food safety regulations operating as nontariff trade barriers.	Use Trade Distortion Equivalent (TDE) instead of PSE as the negotiable measurement of government support.  Subsidies included in TDE to be reduced 50% over 5 years.  Harmonize sanitary and food safety regulations and minimize adverse trade effects.	Consideration given to developing countries as provided for in Uruguay Round Declaration.
Nordic Group (Dec. 1987)  Finland Iceland Norway Sweden	Reduction in trade-distorting policies for all countries using short-term measures	Immediate reduction or elimination of export subsidies and other supply management programs that affect trade.  Strengthen GATT rules and negotiate measures to improve market access.	Use TDE (with 1982-86 average as baseline) to target reform measures and monitor progress.  Harmonize sanitary and food safety regulations and minimize adverse trade effects.	None
Japan (Feb. 1988)	Reduction of trade distortions recognizing the food security needs of countries.	Freeze export subsidies at current levels and agree on phase-out.	Continue traditional request-offer approach for negotiating tariffs. Improve market access rules and refine rules on use of variable levy and minimum import price systems. Reduce trade effects of other subsidies and improve competitive environment.  PSE- or TDE-type measures not necessary.  Harmonize sanitary and food safety regulations and minimize adverse effects.	Consider needs of developing countries when implementing agreements



tures of the EC's Common Agricultural Policy, such as the variable levy and export subsidies. The EC, Japanese, Canadian, Cairns Group, and Nordic proposals call for immediate short-term action to address agricultural trade problems without necessarily having an agreement on long-term reform.

The proposal by the Cairns Group was designed to bridge the gap between the long-term, free-market orientation of the U.S. proposal and the short-term, managed-market preferences of the EC. The Cairns proposal provides for short-, intermediate-, and long-term measures. It calls for an immediate freeze on import restrictions, subsidies, and farm price sup-

ports, to be followed by reductions in these supports over the next 2 years. The reductions in turn would lead to broad, long-term reform. U.S. negotiators would consider the Cairns Group proposal only if short-term measures were shown to be compatible with the United States' long-term goals.

All the proposals address international standardization of food health and safety regulations. Reforms would be directed toward reducing countries' use of health and safety regulations as barriers to trade. Even on this topic of relative accord, different negotiators' positions vary on focus.

Special treatment for developing countries is a critical issue. Developing countries have been largely exempt from GATT rules and regulations so that they may have greater flexibility in promoting industrial growth and managing foreign exchange.

The EC, Cairns Group, Canadian, and Japanese negotiators have suggested that an agricultural agreement would provide specific consideration for developing countries. An elaboration on the U.S. proposal also offers specific consideration for countries according to their level of economic or agricultural development. The nature of these considerations and what countries would qualify are to be negotiated.

### *Aggregate Measures of Support Play Key Role*

All the proposals except for the Japanese include a means to measure government support for agriculture. Two such measures have been proposed, the Producer Subsidy Equivalent (PSE) and the Trade Distortion Equivalent (TDE).

Use of the PSE is an element of the U.S., EC, and Cairns Group proposals. The PSE roughly estimates the cash subsidy that a government would have to offer to compensate producers for removing current government programs. The measurement was first developed as a tool for comparing levels of government agricultural support across countries and across commodities within a country. PSE's have been used by the Organization for Economic Cooperation and Development (OECD); ERS over the past 2 years has extended the measure to additional commodities and countries.

To facilitate cross-country comparisons, PSE's are usually reported as ratios or percentages (see the accompanying table). For example, a PSE of 25 percent for a commodity indicates that government programs account for roughly 25 percent of farmers' gross returns for that product—where returns include direct government payments.

A problem in using the PSE in trade negotiations is that while it accounts for both taxpayer and consumer transfers to agriculture, it does not consider the degree to which the various policies affect trade. For example, a dollar of support through research and extension services carries the same weight in the calculation as does a dollar of support from import quotas, even though the effects on trade differ greatly.

Commodity	Percent			
	Less than 0.2/	0-24	25-49	50 & over
Wheat	Argentina India Nigeria	Australia Mexico S. Africa	Canada EC U.S.	Brazil Japan S. Korea Taiwan
Rice	India Nigeria	Australia Indonesia	EC Taiwan Thailand U.S.	Brazil Japan S. Korea
Corn	Argentina	Brazil Canada Nigeria	U.S. Mexico EC	S. Africa S. Korea Taiwan
Barley		Australia EC	Canada U.S.	Japan S. Korea
Oats		Canada U.S.		
Rapeseed		India	Canada EC	
Soybeans	Argentina India	Brazil Canada U.S.	EC Mexico	Japan S. Korea Taiwan
Sorghum	Argentina		U.S. Mexico	Taiwan
Cotton	India Nigeria Pakistan Mexico	Australia		
Dairy			Australia EC N. Zealand S. Korea Taiwan	Japan Canada U.S.
Beef & veal	Brazil	Australia Canada N. Zealand Taiwan U.S.	EC	Japan S. Korea
Pork	S. Korea	Canada EC Taiwan U.S.	Japan	
Poultry		Brazil Canada Japan Taiwan U.S.	EC S. Korea	
Lamb & mutton		Australia	EC	N. Zealand
Sugar	Nigeria S. Africa	Australia	Canada EC Taiwan	Japan U.S.

1/ Ratio of policy transfers to revenues (including direct payments) from production. Percentages shown are 1982-85 average except Brazil, which is 1982-85 average. 2/ A negative value indicates that the net effect of government policies is to tax producers.

Source: "Estimates of Producer and Consumer Subsidy Equivalents: Government Intervention in Agriculture, 1982-85," ERS Staff Report No. AGES880127, April 1988.

### **For More Information on PSE's And the Uruguay Round**

The following USDA reports give further details on current GATT agricultural negotiations:

"Estimates of Producer and Consumer Subsidy Equivalents: Government Intervention in Agriculture, 1982-86," AGES880127, April 1988.

"Agriculture in the Uruguay Round: Analysis of Government Support," AGES880802, November 1988.

"Agricultural Policy Reform in the Uruguay Round: Proceedings of a Workshop on Economic Issues and Research Needs," AGES880729, September 1988.

Ballenger, Nicole, John Dunmore, and Tom Lederer. "Trade Liberalization in World Farm Markets," AIB No. 516, May 1987.

Mabbs-Zeno, Carl, and Art Dommen. "Subsidy Equivalents: A Yardstick of Government Intervention in Agriculture for the GATT," November 1988.

These reports are available without charge from USDA-EMS Information, Room 237, 1301 New York Avenue, N.W., Washington, D.C. 20005, or by calling (202) 786-1515.

The Canadian and Nordic proposals suggest using the TDE, another version of the support measure concept. The TDE excludes types of government support that have minimal effects on trade. The Canadians have suggested that government expenditures for agricultural education, research, and extension be excluded for this reason. The TDE might also exclude price stabilization measures, price supports offset by production controls, tax benefits, and investment aids.

Some observers have suggested that a PSE or TDE measure can provide, as tariffs have in the past, a basis for negotiating reductions in protection. The role of PSE or TDE in the negotiations is yet to be decided. However, its use as a device to monitor the effects of reform efforts appears to have the most support.

### **Multilateral Reform Provides Benefits Over Unilateral Reform**

The scope and composition of agricultural trade may change as markets adjust to freer conditions. Multilateral implementation of major policy reforms would benefit some economic sectors of the countries involved. However, some farmers in some countries would find the transition hard. If new market prices fell below previously supported prices, farmers who could not produce competitively would face difficult adjustments.

The impact of trade liberalization on farmers is likely to vary widely by commodity and country. If a country offered to liberalize unilaterally, production shifts and income changes likely would be smaller for the commodities that previously were less protected. Government support in most industrial market economies in recent years has tended to be highest for dairy and sugar and lowest for meat. For example, during 1982-86, dairy producers in many countries received government program benefits equal to 25 to 50 percent of their gross returns.

If many countries jointly undergo agricultural policy reform, the adjustment costs faced by any one country can be greatly reduced. The implications for any one country's dairy farmers, for example, would depend on that country's dairy supports relative to other countries' and relative to other commodity supports within that country. Producers in countries with the lowest initial support levels may find themselves in a stronger competitive position in the liberalized market.

During 1982-86, Japanese producers of wheat, soybeans, sugar, rice, milk, beef and veal, and barley received well over half of their gross returns from government programs. The level of subsidy provided to U.S. farmers was usually 25 to 49 percent, although higher for sugar and dairy. Australian producers received the lowest support for most commodities because of government reforms in recent years to cut budget costs.

### **Possible Outcomes Vary Widely**

There are several possible outcomes to the Uruguay Round. First, successful negotiations could lead to freer world trade, in which agricultural producers compete with each other rather than with the government programs of other countries. This outcome depends on finding common ground between the market orientation endorsed by the United States and Cairns Group, and the more protective policies that are deeply rooted in the EC's Common Agricultural Policy and Japan's goal of food self-sufficiency.

At the other extreme, should negotiations break down, market protection and export subsidies could increase. This could be accompanied by a trend toward more bilateral alliances and agreements, such as the U.S.-Canada Free Trade Agreement, but it may also be accompanied by increased international trade tensions and large budgetary outlays for agriculture.

Finally, should the reform momentum be lost, there is the possibility that few significant changes will be agreed upon, and the negotiations will have little impact on trade.  
*[Kate Buckley (202) 786-1289]*



## EC Budget Reforms Grapple With High Agricultural Costs

Plagued by spiraling spending on agriculture, the European Community is reforming its Common Agricultural Policy (CAP), the system of rules and measures governing its farm markets. Last February, the leaders of the 12 EC countries met in Brussels and negotiated policy and budget measures to restructure financing and control growth of agricultural spending. The results included:

- calculation of the budget ceiling as a percentage of the EC's gross national product, instead of as a percentage of the value-added (consumption) tax,
- a limit on the growth of agricultural spending relative to GNP growth,
- automatic price cuts for grains and oilseeds when production exceeds specified targets, and
- a farmland set-aside program.

Although budget pressures have eased recently, high support prices and continual growth in commodity surpluses have driven up EC agricultural program costs in recent years. The resulting budget crisis has been exacerbated by the fall in the U.S. dollar beginning in 1985, the 1986 entry of Spain and Portugal, and the low world commodity prices that prevailed until this summer. The reform aims at putting limits on the rate of growth in agricultural program costs and ensuring enough growth in revenues to cover future costs of agricultural programs.

## Agriculture Takes Lion's Share of EC Budget

Agriculture in EC nations receives about 25 percent of its revenues from the EC budget. The remainder comes from high commodity prices to consumers and transfers from national governments. Agricultural expenditures in the EC budget include export refunds, storage payments, marketing subsidies, processing subsidies, and assistance to improve farm structures. The Treaty of Rome, under which the EC was formed, requires most of these expenditures for implementing the CAP.

Agricultural expenditures have claimed 60-80 percent of the EC budget since the mid-1970's. The remainder is devoted to research and to regional and social programs.

EC spending for agriculture has risen from \$16.5 billion in 1980 to an estimated \$36.6 billion in 1988. Expenditures by member governments are not included in these figures. About 45 percent of the agricultural outlays go to price and income supports, 35 percent to export refunds, 15 percent to storage costs, and the remainder to farm improvements.

Between 1980 and 1987, the share of agricultural expenditures devoted to grains rose from around 15 percent to 18; oilseeds' share rose from 6 percent to 14. Meantime, the shares for dairy, meat, poultry, and eggs declined, although actual outlays continued to rise.

## Budget Reform Measures Affect Both Revenues & Outlays

Last February's budget reforms affect both EC revenues and program outlays. On the revenue side, shifting member countries' contributions to a percentage of the GNP will permit the EC budget to grow to an estimated \$62.2 billion in 1992. The budget is estimated at \$52.0 billion in 1988, and was \$41.8 billion in 1987.

To control farm program costs, spending on market supports was limited to \$32.5 billion for 1988, up nearly 20 percent from 1987. This does not include the cost of other programs such as disposal of surplus commodities, the proposed set-aside program, a monetary reserve to offset fluctuations in exchange rates, or funds for improving farm structures. Together, these additional programs are estimated at \$4.25 billion in 1988.

Future growth in agricultural spending will be limited to 74 percent of GNP growth. However, the limit may be increased under certain circumstances, such as large exchange rate movements that affect the size of export subsidies.

## CAP Turned EC Into Grain Exporter

Since its formation in 1957, the EC has gone from being one of the world's largest grain importers to being one of the largest exporters. The Community became a net exporter of wheat in 1974/75 and of coarse grains in 1984/85. Once a major buyer of grain produced in the United States, Canada, and Australia, the EC is now a major competitor.



Much of the EC's grain trade turnaround is due to the CAP, which promoted production through high support prices and import protection. Moreover, high internal grain prices have slowed domestic consumption and stimulated the use of non-grain feeds. As a result, grain surpluses have risen sharply in recent years. Large export subsidies have helped move them onto world markets.

EC grain policies have been a source of friction between the EC and traditional grain exporters who have seen their markets shrink and their prices fall. This has led to charges of unfair trade, subsidy wars, and retaliation threats. The automatic price cut provision deals with some of these problems.

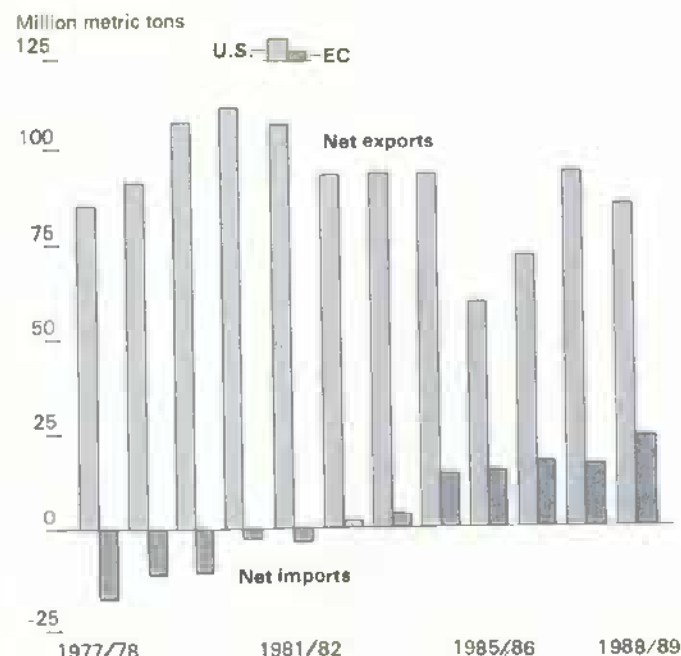
### Grain Price Cuts Likely for 1988/89

The automatic cuts for grain support prices are triggered when production exceeds a "maximum guaranteed quantity," or ceiling. For marketing years 1988/89 through 1991/92, the ceiling for grains (wheat and coarse grains) is 160 million tons, 4 percent above production in 1987/88 but 7 percent below the 1984/85 record.

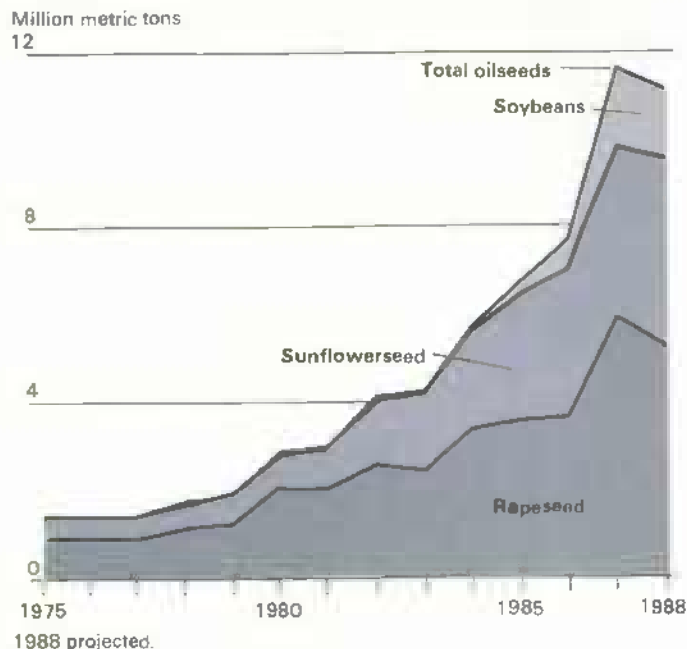
At the beginning of each marketing year (July 1), producers will pay a "coresponsibility levy" or production tax of 3 percent (5.38 European Currency Units or \$6.35 per ton). This tax is in addition to the 3-percent levy producers have been charged since 1985. If grain production does not exceed the ceiling, the new tax will be refunded in full.

If the ceiling is exceeded by less than 3 percent, the tax will be partially refunded. If production is more than 3 percent above the ceiling, there will be no tax refund and support prices for grains will be cut 3 percent at the beginning of the next marketing year.

### EC Grain Exports Continue To Expand



### EC Oilseed Output Has Soared in 1980's



EC farmers likely will exceed the grain production ceiling in 1988/89. Output estimates range from 162 to 165 million tons, implying a cut in grain support prices of 3 percent for the 1989/90 marketing year. However, price cuts of this size are not expected to affect EC grain surpluses significantly, since the cuts can be offset by technological advances or by monetary adjustments that convert EC support prices into national currencies.

### Spending on Oilseeds Has Tripled

EC harvests of the principal oilseeds—rapeseed, sunflowerseed, and soybeans—reached records in 1987. Production has grown steadily since the late 1970's because of high support prices and improved varieties. Support prices rose sharply in the late 1970's and early 1980's and remain high relative to world market prices. Attractive oilseed prices have encouraged producers to plant oilseeds on land previously sown to grain and other crops.

The growth in oilseed production has reduced the EC's dependence on imported oilseeds, but at a price! Government support for the oilseed program has more than tripled since 1984. The rapid growth in outlays made oilseeds a likely target for budget reform, even though the EC remains an oilseed-deficit area.

The EC Commission provides subsidies to oilseed processors to compensate them for the high prices of purchased oilseeds. The soybean price is supported through the EC's intervention system, whereby government agencies purchase commodities at the intervention price, a system similar to the United States' CCC nonrecourse loan. Crushing subsidies are set so that the crusher can offer the oilseed grower more than the intervention price, thus making producer sales to intervention less attractive.

Oilseed support costs have risen not only because of greater production, but also because of low world market prices and adverse exchange rates. Crushing subsidies increase as the difference between the EC support price and the world market price grows. The strengthening of European currencies relative to the U.S. dollar helped widen the gap between domestic and world oilseed prices, increasing budget outlays.

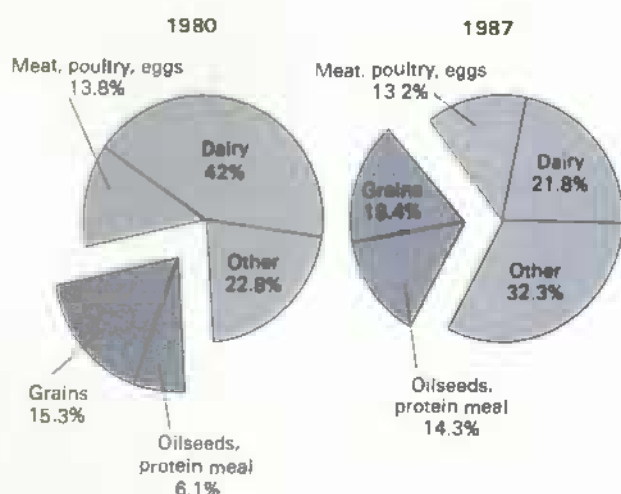
### Oilseed Price Cut Mechanism Has Been Revised

Like the automatic price cut for grains, the oilseed price cut mechanism sets a production ceiling beyond which support will be reduced. A production ceiling was introduced for rapeseed in 1982 and later extended to sunflowerseed and soybeans, but the support price could be reduced no more than 10 percent in any year.

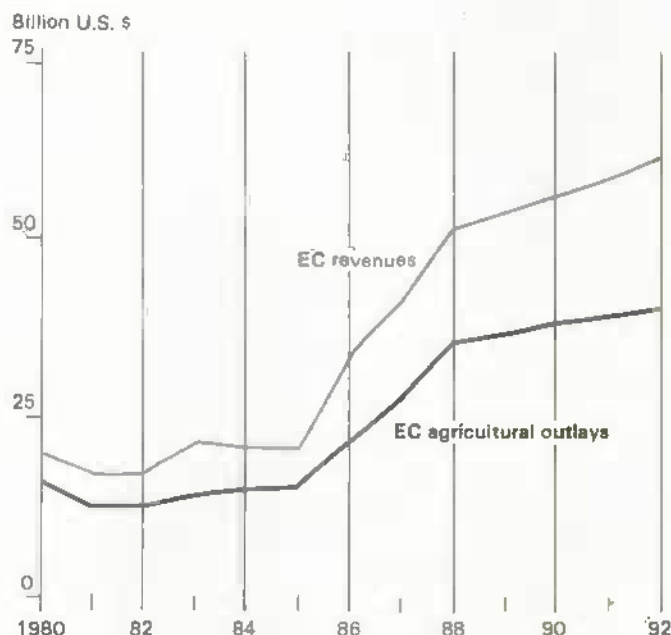
The old ceilings were ineffective because they tended to increase as production increased, and the resulting support price reductions were relatively small, particularly when support prices were two to three times world prices. In 1987/88, production of rapeseed, sunflowerseed, and soybeans was above ceiling and support prices were reduced by the maximum 10 percent.

The February 1988 agreement removed the limitation on the price cuts for oilseeds. Now, each 1 percent over the production ceiling will trigger a 0.45-percent reduction in the support price in 1988/89. The reduction will rise to 0.5 percent for each 1-percent overshoot in the following 2 years, with no limit on how much support prices can fall. However, the agreement increased the production ceilings for all oilseeds from 1987/88 levels, which reduces the likelihood of an automatic price cut.

### Grain and Oilseed Shares of EC Ag Spending Are Widening



### EC Budget Reforms Are Projected To Slow Growth In Ag Outlays



It is still unclear whether the price cuts will slow the growth in budget outlays or curtail production. In 1987, expenditures on oilseed support rose 60 percent over the year-earlier record and took a larger share of total support outlays. Expenditures for 1988 are expected to decline, primarily because of stronger world oilseed prices.

In 1988, sunflowerseed output in the EC-10 was 44 percent above ceiling, resulting in a 20-percent cut in support prices for the 1988/89 marketing year. Spain and Portugal's production was below ceiling. Spain and Portugal have separate ceilings and lower support prices as they are phased in to the EC.

EC rapeseed production also exceeded the ceiling, resulting in a 7.5-percent reduction in 1988/89 support prices. Because the cut is smaller than the previous year's 10 percent, producer prices will rise. The 1988/89 soybean crop is estimated at 1.6 million metric tons, which would be .3 million above ceiling and result in a 1988/89 price support cut of about 10 percent, leaving producer prices unchanged from last year.

The 1988/89 support price package, adopted in July, froze base oilseed supports at 1985/86 levels. Support prices, set in ECU's, are converted to local currencies at special agricultural rates of exchange—the "green rates." Prices received by producers rose because of green rate changes, even though prices in ECU's are frozen.

Support prices are so much greater than world market prices that cutting them 10 to 20 percent exerts little or no restraint on output. As long as oilseed prices remain favorable relative to competing crops, it will be difficult to reduce oilseed output.

### ***Set-Aside Program Likely To Have Only Modest Effect***

A land set-aside program is designed to complement the price cut mechanism. While the primary objective of the set-aside program is to reduce grain surpluses, it also will apply to oilseeds, field peas and beans, sugarbeets, and hops.

Payments to producers for withdrawing land from production are expected to range from 100 to 600 ECU per hectare (\$48 to \$287 per acre). National governments will share the cost, with the EC budget share falling from 50 percent to 15 as the per acre payments increase. The national contributions to these payments will not show up on the EC budget, and thus will not be counted against the new ceiling on agricultural spending.

To qualify for set-aside payments, a farmer must withdraw for 5 years at least 20 percent of the arable land that had been in a program-covered crop. A farmer who sets aside at least 30 percent will be exempt from the 3-percent coresponsibility levy on 20 tons of grain sold off the farm.

Each member country must implement a set-aside program for the 1988/89 crop year under EC Council guidelines. However, producer participation in the set-aside program is optional.

Of EC members, only the Netherlands has agreed to offer the maximum 600-ECU payment to encourage program participation. West Germany has offered 300-400 ECU. The remaining countries have tendered less than 300 ECU per hectare, and payments this small are not expected to encourage much participation.

As little as 1 million hectares (2.47 million acres) may be set aside; this represents about 1.5 percent of the EC's arable land. The impact on production could easily be offset by technological advances and slippage. The EC's lack of experience with set-aside schemes and the firming of world grain prices in recent months could help undermine the program's success. *[Walter Gardiner and Mary Anne Normile (202) 786-1616]*

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# Statistical Indicators

## Summary Data

Table 1.—Key Statistical Indicators of the Food & Fiber Sector

	1987	1988					1989		
	Annual	I	II	III	IV F	Annual F	I F	II F	Annual F
Prices received by farmers (1977=100)	127	130	134	143	142	137	--	--	138
Livestock & products	146	148	149	150	150	149	--	--	153
Crops	106	111	118	136	135	124	--	--	123
Prices paid by farmers, (1977=100)									
Production items	147	152	155	160	160	160	--	--	168
Commodities & services, interest, taxes, & wages	162	165	168	172	168	168	--	--	171
Cash receipts (\$ bil) 1/	138	153	154	156	136	143-148	--	--	--
Livestock (\$ bil)	76	76	76	83	77	77-79	--	--	--
Crops (\$ bil)	62	61	71	78	62	66-68	--	--	--
Market basket (1982-84=100)									
Retail cost	112	114	115	118	--	--	--	--	--
Farm value	97	96	99	104	--	--	--	--	--
Spread	119	123	123	126	--	--	--	--	--
Farm value/retail cost (%)	30	30	30	--	--	--	29	--	--
Retail prices (1982-84=100)									
Food	114	116	117	120	120	118	--	--	--
At home	112	114	115	118	118	116	--	--	--
Away-from home	117	120	121	123	124	122	--	--	--
Agricultural exports (\$ bil) 2/	27.9	9.4	8.7	8.3	9.5	34.0	10.0	7.5	--
Agricultural imports (\$ bil) 2/	20.6	5.7	5.0	4.6	5.0	20.5	5.5	5.0	--
Commercial production									
Red meat (mil lb)	38,442	9,665	9,682	10,138	10,143	39,628	9,638	9,370	38,135
Poultry (mil lb)	19,772	4,986	5,209	5,227	5,215	20,637	5,090	5,395	21,450
Eggs (mil doz)	5,797	1,464	1,415	1,410	1,435	5,724	1,420	1,385	5,625
Milk (bil lb)	142.5	36.1	37.8	36.0	34.7	144.6	35.6	37.8	144.1
Consumption, per capita									
Red meat and poultry (lb)	213.1	53.6	54.3	55.4	57.1	220.5	53.4	53.4	217.4
Corn beginning stocks (mil bu) 3/	4,881.7	9,768.5	7,635.2	5,835.5	4,259.6	--	--	--	--
Corn use (mil bu) 3/	7,409.8	2,134.2	1,801.3	1,576.9	--	--	--	--	--
Prices 4/									
Choice steers--Omaha (\$/cwt)	64.60	68.28	72.81	66.92	68.70	68-70	67-73	75-81	71-77
Barrows and gilts--7 mths. (\$/cwt)	51.69	44.74	45.90	44.24	38-40	42-44	41-47	44-50	42-48
Broilers--12-city (cts/lb)	47.4	45.4	55.6	66.1	54-56	55-57	50-56	53-59	51-57
Eggs--NY Gr. A large (cts/doz)	61.6	55.0	53.3	72.9	70-72	62-64	68-74	63-69	69-75
Milk--all at plant (\$/cwt)	12.51	12.23	11.43	11.87	12.90-	12.10-	12.25-	11.65-	11.95-
					13.30	12.20	12.95	12.35	12.75
Wheat--Kansas City HRW (\$/bu)	2.72	3.20	3.38	3.86	--	--	--	--	--
Corn--Chicago (\$/bu)	1.64	1.95	2.29	2.84	--	--	--	--	--
Soybeans--Chicago (\$/bu)	5.19	6.14	7.01	8.38	--	--	--	--	--
Cotton--Avg. spot mkt. (cts/lb)	64.3	59.1	61.5	54.6	--	--	--	--	--
	1980	1981	1982	1983	1984	1985	1986	1987	1988 F
Gross cash income (\$ bil)	143.3	146.0	150.6	150.4	155.2	156.8	152.0	160.4	163-168
Gross cash expenses (\$ bil)	109.1	113.2	112.8	113.5	116.6	110.2	100.6	103.3	106-109
Net cash income (\$ bil)	34.2	32.8	38.1	36.9	38.7	46.6	51.4	57.1	55-60
Net farm income (\$ bil)	16.1	26.9	23.5	12.7	32.2	32.3	37.5	46.3	38-43
Farm real estate values (1977=100) 5/	145	158	157	148	146	128	112	103	106

1/ Quarterly data seasonally adjusted at annual rates. 2/ Annual data based on Oct.-Sept. fiscal years ending with year indicated. 3/ Dec.-Feb. first quarter; Mar.-May second quarter; June-Aug. third quarter; Sept.-Nov. fourth quarter; Sept.-Aug. annual. Use includes exports and domestic disappearance. 4/ Simple averages. 5/ Nominal values as of February 1. F = forecast. -- = not available.

# U.S. and Foreign Economic Data

Table 2.—U.S. Gross National Product & Related Data

	Annual			1987		1988		
	1985	1986	1987	III	IV	I	II	III P
\$ billion (quarterly data seasonally adjusted at annual rates)								
Gross national product	4,014.9	4,240.3	4,526.7	4,568.0	4,662.8	4,724.5	4,823.8	4,899.5
Personal consumption expenditures	2,629.0	2,807.5	3,012.1	3,058.2	3,076.3	3,128.1	3,194.6	3,257.6
Durable goods	372.2	406.5	421.9	441.4	422.0	437.8	449.8	453.6
Nondurable goods	911.2	943.6	997.9	1,006.6	1,012.4	1,016.2	1,036.6	1,057.6
Clothing & shoes	156.4	167.0	178.2	180.4	181.2	180.5	183.2	187.3
Food & beverages	471.6	501.0	526.4	528.4	530.9	535.9	546.3	557.2
Services	1,345.6	1,457.3	1,592.3	1,610.2	1,641.9	1,674.1	1,708.2	1,746.4
Gross private domestic investment	643.1	665.9	712.9	702.8	764.9	763.4	758.1	764.4
Fixed investment	631.8	650.4	673.7	688.3	692.9	698.1	714.4	721.4
Change in business inventories	11.3	15.5	39.2	14.5	72.0	65.3	43.7	42.9
Net exports of goods & services	-78.0	-104.4	-123.0	-125.2	-125.7	-112.1	-90.4	-84.9
Government purchases of goods & services	820.8	871.2	924.7	932.2	947.3	945.2	961.6	962.4
1982 \$ billion (quarterly data seasonally adjusted at annual rates)								
Gross national product	3,618.7	3,721.7	3,847.0	3,865.3	3,923.0	3,956.1	3,985.2	4,007.3
Personal consumption expenditures	2,354.8	2,455.2	2,521.0	2,545.2	2,531.7	2,559.8	2,579.0	2,601.3
Durable goods	355.1	385.0	390.9	406.5	387.6	401.1	410.6	411.0
Nondurable goods	847.4	879.5	890.5	891.9	890.5	892.7	893.6	901.7
Clothing & shoes	147.2	157.6	160.5	162.9	160.3	159.6	156.3	163.2
Food & beverages	435.5	448.0	450.4	449.4	449.2	451.4	453.2	452.4
Services	1,152.3	1,190.7	1,239.5	1,246.8	1,253.6	1,265.9	1,274.8	1,288.5
Gross private domestic investment	637.0	643.5	674.8	667.9	724.7	728.9	715.1	719.7
Fixed investment	628.7	628.1	640.4	654.9	657.6	662.9	679.7	685.9
Change in business inventories	9.1	15.4	34.4	13.0	67.1	66.0	35.3	33.8
Net exports of goods & services	-104.3	-137.5	-128.9	-130.7	-126.0	-109.0	-92.6	-94.9
Government purchases of goods & services	731.2	760.5	780.2	782.9	792.6	776.4	783.8	781.1
GNP implicit price deflator % change	3.0	2.7	3.3	3.1	2.4	1.7	5.5	4.4
Disposable personal income (\$ bil)	2,838.7	3,019.6	3,209.7	3,224.9	3,315.8	3,375.6	3,421.5	3,498.9
Disposable per. income (1982 \$ bil)	2,542.8	2,640.9	2,686.3	2,683.9	2,728.9	2,762.3	2,762.2	2,794.0
Per capita disposable per. income (\$)	11,861	12,496	13,157	13,204	13,543	13,760	13,919	14,195
Per capita dis. per. income (1982 \$)	10,625	10,929	11,012	10,989	11,145	11,260	11,237	11,335
U.S. population, total, incl. military abroad (mil)	239.3	241.6	243.9	244.2	244.8	245.3	245.8	246.5
Civilian population (mil)	237.0	239.4	241.7	242.0	242.6	243.1	243.6	244.2
	Annual			1987		1988		
	1985	1986	1987	Sept	June	July	Aug	Sept
Monthly data seasonally adjusted								
Industrial production (1977=100)	123.7	125.1	129.8	131.0	136.5	138.1	138.3	138.3
Leading economic indicators (1967=100)	168.6	179.3	189.5	191.9	193.9	192.5	193.4	193.3
Civilian employment (mil. persons)	107.2	109.6	112.4	113.0	115.0	115.1	115.2	115.3
Civilian unemployment rate (%)	7.2	7.0	6.2	5.7	5.3	5.4	5.6	5.4
Personal income (\$ bil annual rate)	3,325.3	3,531.1	3,780.0	3,820.8	4,044.9	4,071.3	4,083.4	4,103.3
Money stock-M2 (daily avg) (\$ bil) 1/	2,562.6	2,807.7	2,901.0	2,880.8	3,016.5	3,025.9	3,032.0	3,035.2
Three-month Treasury bill rate (%)	7.48	5.98	5.82	6.32	6.50	6.73	7.02	7.23
AAA corporate bond yield (Moody's) (%)	11.37	9.02	9.38	10.18	9.86	9.96	10.11	9.82
Housing starts (thou) 2/	1,742	1,805	1,621	1,679	1,465	1,477	1,431	1,453
Auto sales at retail, total (mil)	11.0	11.4	10.3	11.7	11.0	10.7	10.6	10.6
Business inventory/sales ratio	1.55	1.55	1.51	1.48	1.50	1.50	1.50	--
Sales of all retail stores (\$ bil)	115.0	121.2	125.5	128.1	133.6	134.3	134.2 P	133.7
Nondurable goods stores (\$ bil)	71.8	73.9	76.9	79.9	82.9	83.6	84.2 P	84.1
Food stores (\$ bil)	23.7	24.6	25.3	26.4	27.4	27.7	28.0 P	27.9
Eating & drinking places (\$ bil)	11.1	12.1	12.7	12.3	12.9	13.1	13.1 P	13.2
Apparel & accessory stores (\$ bil)	6.2	6.7	7.1	6.7	6.8	6.9	6.9 P	7.0

1/ Annual data as of December of the year listed. 2/ Private, including farm. P = preliminary. -- = not available.

Information contact: James Malley (202) 786-1782.

Table 3.—Foreign Economic Growth, Inflation, &amp; Export Earnings

	Average 1970-74	Average 1975-79	1980	1981	1982	1983	1984	1985	1986	1987 P	1988 F	1989 F
Annual percent change												
Total foreign												
Real GNP	5.5	3.7	2.6	1.6	1.7	2.0	3.2	3.0	2.7	2.9	3.3	2.8
CPI	10.2	14.0	16.9	15.6	14.4	18.4	22.5	21.6	11.5	16.4	30.3	37.3
Export earnings	27.6	14.6	22.2	-2.7	-7.0	-2.6	5.6	1.6	11.9	18.6	10.0	6.6
Developed less U.S.												
Real GNP	4.8	3.1	2.4	1.4	1.1	1.9	3.4	3.3	2.4	3.0	3.6	2.5
CPI	8.4	9.4	10.9	9.6	8.0	6.0	5.1	4.7	2.8	2.7	2.9	3.4
Export earnings	23.9	14.9	17.0	-3.3	-4.3	-0.5	6.3	4.6	19.4	17.5	15.7	4.8
Centrally planned												
Real GNP	5.1	3.5	1.5	2.1	2.7	3.4	3.7	2.9	3.9	2.6	3.1	3.3
Export earnings	19.4	16.1	16.5	3.4	6.0	8.2	1.5	-5.1	7.3	6.7	7.7	8.0
Latin America												
Real GNP	7.4	5.1	5.3	0.7	-0.5	-2.7	3.3	3.6	3.7	2.3	-0.5	1.4
CPI	23.5	53.7	61.3	64.9	72.6	126.2	174.1	179.4	86.1	136.8	280.5	350.8
Export earnings	28.2	12.8	30.1	5.3	-10.0	-0.8	6.7	-7.7	-14.1	8.6	11.9	7.0
Africa & Middle East												
Real GNP	8.9	6.4	1.3	0.0	1.4	0.1	1.1	0.0	-1.2	1.8	2.6	3.3
CPI	8.7	16.4	24.6	17.3	12.9	16.7	19.4	11.2	11.6	15.7	17.9	17.6
Export earnings	50.9	13.2	37.9	-9.2	-19.7	-17.5	-7.0	-6.9	-14.6	11.8	-1.4	4.2
Asia												
Real GNP	6.0	6.8	6.3	6.6	3.6	6.6	5.4	4.0	5.8	5.9	7.3	6.1
CPI	13.0	8.4	16.4	14.1	7.3	7.7	8.5	5.2	4.5	5.4	6.7	7.1
Export earnings	28.9	18.6	27.8	6.8	-0.3	3.4	13.7	-1.2	5.9	28.1	23.8	13.3

P = preliminary. F = forecast.

Information contact: Timothy Baxter (202) 786-1706.

## Farm Prices

Table 4.—Indexes of Prices Received &amp; Paid by Farmers, U.S. Average

	Annual			1987	1988					
	1985	1986	1987	Oct	May	June	July	Aug	Sept R	Oct P
1977=100										
Prices received										
All farm products	128	123	127	127	134	137	141	144	144	144
All crops	120	107	106	106	117	127	133	135	135	135
Food grains	133	109	103	108	125	138	143	147	151	157
Feed grains & hay	122	98	85	86	105	127	142	138	137	139
Feed grains	122	96	81	81	98	126	141	137	134	137
Cotton	93	91	98	106	97	101	97	87	86	83
Tobacco	153	138	129	135	126	126	126	129	140	143
Oil-bearing crops	84	77	79	79	103	117	122	119	119	116
Fruit, all	180	170	182	196	195	179	161	181	186	185
Fresh market 1/	192	178	193	210	206	191	171	196	202	201
Commercial vegetables	129	130	144	122	115	116	126	147	139	132
Fresh market	122	123	147	117	108	110	122	148	139	132
Potatoes & dry beans	124	114	127	95	118	113	151	154	136	129
Livestock & products	136	138	146	147	151	147	147	152	153	153
Meat animals	142	145	163	165	176	168	163	168	167	168
Dairy products	131	129	129	133	117	116	117	122	128	132
Poultry & eggs	119	128	107	98	106	114	136	137	139	132
Prices paid										
Commodities & services,										
interest, taxes, & wage rates	163	159	162	165	--	--	172	--	--	174
Production items	151	144	147	150	--	--	160	--	--	162
Feed	116	108	103	105	--	--	147	--	--	142
Feeder livestock	154	153	179	190	--	--	180	--	--	196
Seed	153	148	148	149	--	--	150	--	--	150
Fertilizer	135	124	118	121	--	--	132	--	--	134
Agricultural chemicals	128	127	124	123	--	--	127	--	--	127
Fuels & energy	201	162	161	168	--	--	166	--	--	162
Farm & motor supplies	146	144	144	144	--	--	147	--	--	152
Autos & trucks	193	198	208	213	--	--	216	--	--	215
Tractors & self-propelled machinery	178	174	174	176	--	--	179	--	--	188
Other machinery	183	184	185	188	--	--	199	--	--	203
Building & fencing	136	136	137	138	--	--	138	--	--	139
Farm services & cash rent	150	145	146	146	--	--	150	--	--	150
Interest payable per acre on farm real estate debt	237	219	207	207	--	--	193	--	--	193
Taxes payable per acre on farm real estate	133	134	136	136	--	--	138	--	--	138
Wage rates (seasonally adjusted)	154	160	167	162	--	--	174	--	--	174
Production items, interest, taxes, & wage rates	157	150	152	155	--	--	162	--	--	164
Ratio, prices received to prices paid 2/	79	77	78	77	80	82	82	84	84	83
Prices received (1910-14=100)	585	561	578	579	614	627	642	657	658	659
Prices paid, etc. (Parity index) (1910-14=100)	1,120	1,096	1,115	1,134	--	--	1,182	--	--	1,198
Parity ratio (1910-14=100) 2/	52	51	52	51	--	--	54	--	--	55

1/ Fresh market for noncitrus; fresh market and processing for citrus. 2/ Ratio of index of prices received for all farm products to index of prices paid for commodities and services, interest, taxes, and wage rates. Ratio derived using the most recent prices paid index. Prices paid data is quarterly and will be published in January, April, July, and October. R = revised. P = preliminary. -- = not available.

Information contact: National Agricultural Statistics Service (202) 447-5446.



Table 5.—Prices Received by Farmers, U.S. Average

	Annual 1/			1987						
	1985	1986	1987	Oct	May	June	July	Aug	Sept R	Oct P
<b>Crops</b>										
All wheat (\$/bu)	3.20	2.71	2.55	2.62	2.99	3.36	3.50	3.61	3.75	3.89
Rice, rough (\$/cwt)	7.85	5.04	4.49	5.88	7.71	7.29	7.51	7.42	6.82	7.15
Corn (\$/bu)	2.49	1.96	1.56	1.55	1.95	2.41	2.72	2.65	2.60	2.71
Sorghum (\$/cwt)	3.97	3.11	2.56	2.48	2.91	4.13	4.56	4.39	4.24	4.21
All hay, baled (\$/ton)	69.93	61.64	62.90	64.70	80.90	76.80	83.10	83.10	85.50	86.80
Soybeans (\$/bu)	5.42	5.00	5.08	5.04	6.99	8.14	8.50	8.33	7.94	7.71
Cotton, Upland (cts/lb)	56.1	55.0	59.4	65.1	58.9	61.2	58.6	52.6	51.8	50.0
Potatoes (\$/cwt)	3.92	5.03	4.47	3.74	4.66	4.23	5.70	5.92	4.97	4.42
Lettuce (\$/cwt)	10.90	11.90	14.70	13.20	7.89	10.70	7.62	13.20	11.10	16.20
Tomatoes (\$/cwt)	24.10	25.10	26.00	25.60	22.60	24.80	31.00	38.90	31.90	21.40
Onions (\$/cwt)	9.08	10.90	12.50	8.76	9.10	8.49	11.50	8.09	10.40	9.06
Dry edible beans (\$/cwt)	17.60	19.10	14.90	14.60	18.40	21.00	27.50	26.00	27.00	30.10
Apples for fresh use (cts/lb)	14.7	19.8	19.4	12.7	11.1	10.9	19.7	26.1	25.1	20.8
Pears for fresh use (\$/ton)	349.00	369.00	225.00	214.00	404.00	526.00	410.00	383.00	418.00	406.00
Oranges, all uses (\$/box) 2/	7.41	4.42	4.55	10.42	7.87	7.76	4.11	4.92	4.17	5.48
Grapefruit, all uses (\$/box) 2/	4.01	4.29	5.00	8.58	3.96	2.89	4.74	4.09	7.34	7.57
<b>Livestock</b>										
Beef cattle (\$/cwt)	53.96	52.84	61.37	62.90	69.30	65.00	63.20	65.90	67.20	67.90
Calves (\$/cwt)	62.43	60.89	78.05	81.40	93.40	84.90	87.70	90.90	89.00	90.60
Hogs (\$/cwt)	44.16	49.68	51.65	48.90	46.30	47.10	44.10	44.70	40.70	39.40
Lambs (\$/cwt)	68.08	69.10	77.93	71.90	72.60	60.20	60.00	59.80	64.30	66.60
All milk, sold to plants (\$/cwt)	12.75	12.50	12.54	12.90	11.40	11.30	11.40	11.80	12.40	12.80
Milk, manuf. grade (\$/cwt)	11.72	11.46	11.37	11.80	10.40	10.30	10.40	10.90	11.60	11.90
Broilers (cts/lb)	30.1	34.5	28.8	25.1	33.5	36.7	42.1	41.9	39.2	37.5
Eggs (cts/doz) 3/	57.1	61.6	54.9	50.2	43.1	45.7	57.8	58.1	63.8	58.7
Turkeys (cts/lb)	47.2	44.4	34.3	30.2	29.7	31.6	39.4	41.6	45.7	47.8
Wool (cts/lb) 4/	62.6	64.3	87.1	95.5	165.0	161.0	133.0	128.0	111.0	135.0

1/ Calendar year averages, except for potatoes, dry edible beans, apples, oranges, and grapefruit, which are crop years.  
 2/ Equivalent on-tree returns. 3/ Average of all eggs sold by producers including hatching eggs and eggs sold at retail.  
 4/ Average local market price, excluding incentive payments. R = revised. P = preliminary.

Information contact: National Agricultural Statistics Service (202) 447-5446.

## Producer & Consumer Prices

Table 6.—Consumer Price Index for All Urban Consumers, U.S. Average (Not Seasonally Adjusted)

	Annual	1987	1988							
	1987	Sept	Feb	Mar	Apr	May	June	July	Aug	Sept
			1982-84=100							
Consumer price index, all items	113.6	115.0	116.0	116.5	117.1	117.5	118.0	118.5	119.0	119.8
Consumer price index, less food	113.6	115.1	116.0	116.6	117.2	117.6	118.1	118.4	118.9	119.7
<b>All food</b>	113.5	114.1	115.7	115.9	116.6	117.0	117.6	118.8	119.4	120.2
Food away from home	117.0	118.0	119.7	120.2	120.7	121.0	121.5	122.1	122.5	123.0
Food at home	111.9	112.4	113.9	113.9	114.6	115.1	115.8	117.3	118.1	119.0
Meats 1/	109.6	112.0	110.2	110.9	110.8	111.7	113.8	113.4	113.2	113.4
Beef & veal	106.3	107.4	108.5	109.8	110.5	111.7	114.1	113.4	112.7	113.6
Pork	115.9	121.1	112.3	112.6	111.4	111.7	114.6	114.3	114.1	113.7
Poultry	112.6	112.5	108.4	109.1	110.2	114.0	120.1	129.0	131.7	133.4
Fish	129.9	132.0	137.0	136.0	139.3	136.1	136.0	138.1	137.9	136.0
Eggs	91.5	97.6	85.5	87.9	85.0	81.8	83.6	95.1	104.2	103.1
Dairy products 2/	105.9	106.4	107.3	107.2	107.1	107.4	107.2	107.6	108.2	108.9
Fats & oils 3/	108.1	107.8	109.5	110.3	110.3	111.2	111.5	112.6	114.9	115.9
Fresh fruit	132.0	131.7	132.6	133.8	139.9	146.6	143.6	147.8	150.1	153.3
Processed fruit	110.6	112.1	118.0	119.4	122.1	121.8	123.5	123.0	123.4	123.8
Fresh vegetables	121.6	114.6	133.7	125.6	127.5	124.5	121.8	127.0	125.9	132.1
Potatoes	116.0	110.5	106.2	108.5	111.2	114.7	122.2	125.7	132.0	124.8
Processed vegetables	107.1	107.6	107.6	107.9	108.4	108.6	110.0	111.3	113.9	116.4
Cereals & bakery products	114.8	115.4	118.7	118.9	119.8	120.3	120.8	122.1	124.0	124.7
Sugar & sweets	111.0	111.6	112.2	112.6	112.3	112.5	113.3	114.0	114.8	115.6
Beverages, nonalcoholic	107.5	105.8	107.7	107.7	107.8	107.5	107.1	107.2	107.0	107.4
<b>Apparel commodities less footwear</b>	109.6	112.9	108.8	113.7	116.6	115.7	113.6	111.3	111.3	117.0
Footwear	105.1	105.7	105.8	107.3	109.4	109.7	109.2	108.2	107.4	112.2
Tobacco & smoking products	133.6	135.9	142.2	142.8	142.9	143.2	143.6	147.5	148.6	148.9
Beverages, alcoholic	114.1	114.9	116.8	117.4	118.0	118.2	118.7	119.2	119.3	119.6

1/ Beef, veal, lamb, pork, and processed meat. 2/ Includes butter. 3/ Excludes butter.

Information contact: Ralph Parlett (202) 786-1870.

Table 7.—Producer Price Indexes, U.S. Average (Not Seasonally Adjusted)

	Annual			1987	1988					
	1985	1986	1987	Sept	Apr	May R	June	July	Aug	Sept
	1982=100									
Finished goods 1/	104.7	103.2	105.4	105.7	107.0	107.5	107.9	108.5	108.8	108.6
Consumer foods	104.6	107.3	109.5	110.5	110.3	111.2	112.5	113.7	113.6	115.2
Fresh fruit	108.1	112.9	112.0	107.5	105.3	113.6	112.2	115.0	108.7	119.0
Fresh & dried vegetables	99.4	97.8	103.8	99.4	98.4	92.3	90.6	104.7	103.2	117.7
Dried fruit	88.7	91.9	95.0	94.2	99.3	99.3	99.2	99.3	99.3	101.0
Canned fruit & juice	113.8	111.0	115.4	116.4	119.7	119.9	119.8	120.2	120.2	120.5
Frozen fruit & juice	118.5	103.0	113.3	112.9	129.8	130.9	131.8	130.5	130.9	130.6
Fresh veg. excl. potatoes	100.3	99.3	99.0	98.2	98.5	88.5	86.6	96.9	94.3	110.4
Canned veg. & juices	101.9	101.2	103.6	102.8	103.1	103.2	103.7	107.9	111.8	111.6
Frozen vegetables	106.5	106.6	107.3	107.7	106.8	106.5	106.6	107.1	109.2	109.6
Potatoes	101.2	104.0	120.1	110.6	97.6	100.5	89.9	104.2	108.8	129.7
Eggs	95.6	99.5	87.6	100.6	73.1	70.8	75.1	92.2	105.5	102.1
Bakery products	113.9	116.6	118.5	119.3	123.7	124.5	125.5	126.0	126.8	129.7
Meats	90.9	93.9	100.4	105.7	99.0	102.2	104.2	101.5	99.4	101.4
Beef & veal	90.3	88.1	95.5	96.7	101.4	102.8	103.8	101.0	98.4	103.8
Pork	89.1	99.9	104.9	119.2	92.5	100.4	104.1	101.2	98.6	96.5
Processed poultry	110.4	116.7	103.5	101.9	100.2	105.6	114.2	124.6	122.2	123.1
Fish	114.6	124.9	140.0	133.5	149.8	150.8	157.4	152.0	152.1	154.0
Dairy products	100.2	99.9	101.6	102.7	100.0	100.1	100.5	101.2	102.1	103.8
Processed fruits & vegetables	107.9	104.9	108.6	108.5	111.5	111.7	112.0	113.4	115.1	115.2
Shortening & cooking oil	123.9	103.3	103.9	104.3	114.8	116.0	122.8	129.5	127.6	124.0
Consumer finished goods less foods	103.3	98.5	100.7	101.1	102.6	103.0	103.0	103.7	104.1	103.0
Beverages, alcoholic	107.6	110.1	110.4	109.5	111.7	111.6	111.7	111.8	112.2	111.9
Soft drinks	107.7	109.5	111.9	112.0	114.1	114.2	113.4	113.2	113.9	114.3
Apparel	105.0	106.3	108.4	109.2	110.8	111.0	111.7	112.2	112.1	112.6
Footwear	104.7	106.8	109.4	111.0	114.1	114.2	114.8	115.5	116.0	116.4
Tobacco products	132.5	142.4	154.7	157.6	166.8	166.8	166.8	175.4	175.4	175.4
Intermediate materials 2/	102.6	99.1	101.5	102.7	105.6	106.3	107.4	108.2	108.4	108.7
Materials for food manufacturing	101.4	98.4	100.8	102.8	102.6	104.0	107.0	109.9	108.8	109.6
Flour	99.8	94.5	92.9	93.2	96.8	97.2	109.7	110.0	111.6	114.2
Refined sugar 3/	102.8	103.2	106.4	107.4	107.2	106.6	106.6	108.1	109.0	108.7
Crude vegetable oils	137.5	84.8	84.2	79.9	109.0	114.1	124.2	148.6	134.9	127.3
Crude materials 4/	95.8	87.7	93.7	95.7	95.6	97.2	98.2	97.0	97.3	96.6
Foodstuffs & feedstuffs	94.8	93.2	96.2	96.6	101.1	104.7	108.4	109.9	110.1	111.5
Fruits & vegetables 5/	102.6	103.9	106.8	102.5	101.0	101.2	99.6	108.7	105.1	117.7
Grains	96.1	79.2	71.1	69.5	82.3	82.9	103.4	111.5	109.9	112.9
Livestock	89.1	91.8	102.0	104.1	107.7	111.8	105.4	99.1	99.9	99.7
Poultry, live	117.8	129.6	101.2	100.3	97.6	112.2	130.4	156.4	145.1	142.7
Fibers, plant & animal	97.4	88.3	106.5	118.5	103.6	103.7	107.6	99.4	98.7	89.7
Fluid milk	93.6	90.9	91.9	92.7	85.4	85.3	83.8	84.9	87.1	89.8
Oilseeds	94.4	91.4	99.3	96.7	121.5	127.5	153.8	152.3	150.7	155.7
Tobacco, leaf	101.2	89.7	85.8	88.5	82.0	82.0	82.0	82.0	84.0	91.1
Sugar, raw cane	104.6	104.9	110.3	110.9	111.9	111.8	112.7	118.2	111.8	111.6
All commodities	103.1	100.1	102.8	103.7	105.8	106.5	107.4	107.8	108.0	108.1
Industrial commodities	103.7	99.9	102.6	103.5	105.6	106.1	106.5	106.7	107.1	106.9
All foods 6/	103.9	105.5	107.8	108.9	108.9	110.1	111.8	113.4	113.0	114.6
Farm products & processed foods & feeds	100.6	101.2	103.7	104.6	106.4	108.1	111.3	113.0	112.6	114.0
Farm products	95.1	92.9	95.5	96.1	99.2	102.2	106.4	108.7	108.9	111.1
Processed foods & feeds 6/	103.5	105.4	107.9	108.9	110.1	111.2	113.9	115.3	114.6	115.6
Cereal & bakery products	110.2	111.0	112.6	113.0	120.2	120.4	123.0	123.9	124.4	126.4
Sugar & confectionery	107.9	109.6	112.7	114.0	113.3	113.1	113.6	115.7	115.6	115.5
Beverages	107.7	114.5	112.5	111.6	114.1	114.1	114.0	114.2	114.5	114.7

1/ Commodities ready for sale to ultimate consumer. 2/ Commodities requiring further processing to become finished goods. 3/ All types and sizes of refined sugar. 4/ Products entering market for the first time that have not been manufactured at that point. 5/ Fresh and dried. 6/ Includes all raw, intermediate, and processed foods (excludes soft drinks, alcoholic beverages, and manufactured animal feeds). R = revised.

Information contact: Bureau of Labor Statistics (202) 523-1913.

Farm-Retail Price Spreads

Table 8.—Farm-Retail Price Spreads

	Annual				1987	1988					
	1984	1985	1986	1987	Sept	Apr	May	June	July	Aug	Sept
Market basket 1/											
Retail cost (1982-84=100)	102.9	104.1	106.3	111.6	112.2	114.2	115.0	115.5	117.3	118.4	119.5
Farm value (1982-84=100)	103.5	96.2	94.9	97.1	98.0	95.6	98.1	101.3	104.5	104.5	105.8
Farm-retail spread (1982-84=100)	102.6	108.3	112.5	119.4	120.0	124.3	124.0	123.2	124.2	125.8	126.8
Farm value-retail cost (%)	35.2	32.4	31.2	30.5	30.6	29.3	29.9	30.7	31.2	30.9	31.0
Meat products											
Retail cost (1982-84=100)	99.8	98.9	102.0	109.6	112.0	110.8	111.7	113.8	113.4	113.2	113.4
Farm value (1982-84=100)	99.4	91.3	94.3	101.2	105.5	102.0	103.2	108.3	97.5	97.5	100.3
Farm-retail spread (1982-84=100)	100.3	106.7	109.8	118.3	118.7	119.9	120.4	119.4	129.7	129.3	126.8
Farm value-retail cost (%)	50.4	46.8	46.8	46.7	47.7	46.6	46.8	48.2	43.6	43.6	44.8
Dairy products											
Retail cost (1982-84=100)	101.3	103.2	103.3	105.9	106.4	107.1	107.4	107.2	107.6	108.2	108.9
Farm value (1982-84=100)	99.2	95.2	92.6	93.3	94.0	88.1	86.5	86.3	88.0	88.8	89.3
Farm-retail spread (1982-84=100)	103.2	110.5	113.3	117.5	117.9	124.6	126.7	126.5	125.7	126.1	127.0
Farm value-retail cost (%)	47.0	44.2	43.0	42.3	42.4	39.5	38.6	38.6	39.2	39.4	39.4
Poultry											
Retail cost (1982-84=100)	107.3	106.2	114.2	112.6	112.5	110.2	114.0	120.1	129.0	131.7	133.4
Farm value (1982-84=100)	112.6	105.9	115.1	93.8	92.2	89.7	105.1	114.7	135.5	133.8	128.4
Farm-retail spread (1982-84=100)	101.1	106.6	113.3	134.2	135.9	133.9	124.2	126.3	121.5	129.3	139.1
Farm value-retail cost (%)	56.2	53.3	53.9	44.6	43.8	43.5	49.4	51.1	56.2	54.4	51.5
Eggs											
Retail cost (1982-84=100)	109.1	91.0	97.2	91.5	97.6	85.0	81.8	83.6	95.1	104.2	103.1
Farm value (1982-84=100)	110.1	85.7	92.4	76.8	88.1	61.9	56.6	62.7	84.9	86.6	97.0
Farm-retail spread (1982-84=100)	107.4	100.4	106.0	117.9	114.7	126.5	127.1	121.1	113.4	135.9	141.1
Farm value-retail cost (%)	64.8	60.5	61.0	53.9	58.0	46.8	44.4	48.2	57.4	53.4	60.4
Cereal & bakery products											
Retail cost (1982-84=100)	103.9	107.9	110.9	114.8	115.4	119.8	120.3	120.8	122.1	124.0	124.7
Farm value (1982-84=100)	102.9	94.3	76.3	71.0	70.3	83.8	86.8	94.2	97.1	99.1	101.1
Farm-retail spread (1982-84=100)	104.1	109.8	115.7	120.9	121.7	124.8	125.0	124.5	125.6	127.5	128.0
Farm value-retail cost (%)	12.1	10.7	8.4	7.6	7.5	8.6	8.8	9.6	9.7	9.8	9.9
Fresh fruits											
Retail cost (1982-84=100)	106.6	118.4	120.4	135.6	135.3	141.8	149.8	142.2	150.7	153.5	157.5
Farm value (1982-84=100)	113.7	110.8	103.8	113.9	110.7	89.8	122.9	105.0	129.6	125.5	120.0
Farm-retail spread (1982-84=100)	103.3	121.8	128.0	145.7	146.7	165.8	162.2	159.4	160.4	166.4	174.8
Farm value-retail cost (%)	33.7	29.6	27.4	26.5	25.8	20.0	25.9	23.3	27.2	25.8	24.1
Fresh vegetables											
Retail costs (1982-84=100)	108.2	103.5	107.7	121.6	114.6	127.5	124.5	121.8	127.0	125.9	132.1
Farm value (1982-84=100)	108.3	93.1	90.0	112.0	100.9	104.2	89.4	93.6	112.1	121.4	124.2
Farm-retail spread (1982-84=100)	108.2	108.9	116.8	126.5	121.6	139.5	142.6	136.3	134.7	128.2	136.2
Farm value-retail cost (%)	34.0	30.5	28.4	31.3	29.9	27.7	24.4	26.1	30.0	32.7	31.9
Processed fruits & vegetables											
Retail cost (1982-84=100)	104.3	107.0	105.3	109.0	110.1	116.0	115.9	117.6	117.8	119.2	120.4
Farm value (1982-84=100)	106.8	117.7	101.5	111.1	107.5	131.4	135.8	135.7	139.8	140.1	143.4
Farm-retail spread (1982-84=100)	103.4	103.7	106.4	108.3	110.9	111.2	110.2	112.0	110.9	112.7	113.2
Farm value-retail cost (%)	24.4	26.2	22.9	24.2	23.2	26.9	27.5	27.4	28.2	27.9	28.3
Fats & oils											
Retail cost (1982-84=100)	106.6	108.9	106.5	108.1	107.8	110.3	111.2	111.5	112.6	114.9	115.9
Farm value (1982-84=100)	124.3	104.3	76.2	74.1	71.4	95.6	100.6	108.0	132.9	114.7	110.9
Farm-retail spread (1982-84=100)	100.2	110.6	117.6	120.6	121.2	115.7	115.1	112.8	105.1	115.0	117.7
Farm value-retail cost (%)	31.3	25.8	19.2	18.4	17.8	23.3	24.3	26.1	31.8	26.9	25.7

	Annual				1987	1988					
	1984	1985	1986	1987	Sept	Apr	May	June	July	Aug	Sept
Beef, Choice											
Retail price 2/ (cts/lb)	239.6	232.6	230.7	242.5	245.5	250.2	253.2	259.9	259.3	257.8	259.7
Net carcass value 3/ (cts)	147.6	135.2	133.1	145.5	144.9	156.7	166.2	158.2	144.6	150.9	153.6
Net farm value 4/ (cts)	140.0	126.8	124.4	137.9	137.6	152.4	158.6	148.1	137.9	142.9	145.8
Farm-retail spread (cts)	99.6	105.8	106.3	104.6	107.9	97.7	94.6	111.8	121.3	114.9	113.8
Carcass-retail spread 5/ (cts)	92.0	97.4	97.6	97.2	100.6	93.4	87.0	101.6	114.7	107.3	106.0
Farm-carcass spread 6/ (cts)	7.6	8.4	8.7	7.4	7.3	4.3	7.6	10.1	6.7	7.6	7.8
Farm value-retail price (%)	58	55	54	57	56	61	63	57	53	55	56
Pork											
Retail price 2/ (cts/lb)	162.0	162.0	178.4	188.4	196.9	182.9	183.6	187.9	187.4	185.5	184.9
Wholesale value 3/ (cts)	110.1	101.1	110.9	113.0	119.8	102.5	106.4	106.3	100.0	101.4	97.2
Net farm value 4/ (cts)	77.4	71.4	82.4	82.7	87.8	67.2	76.1	76.8	72.6	73.4	65.1
Farm-retail spread (cts)	84.6	90.6	96.0	105.7	109.1	115.7	107.5	111.1	114.8	112.1	119.8
Wholesale-retail spread 5/ (cts)	51.9	60.9	67.5	75.4	77.1	80.4	77.2	81.6	87.4	84.1	87.7
Farm-wholesale spread 6/ (cts)	32.7	29.7	28.5	30.3	32.0	35.3	30.3	29.5	27.4	28.0	32.1
Farm value-retail price (%)	48	44	46	44	45	37	41	41	39	40	35

1/ Retail costs are based on indexes of retail prices for domestically produced farm foods from the CPI-U published monthly by the Bureau of Labor Statistics. The farm value is the payment to farmers for quantity of farm product equivalent to retail unit, less allowance for byproduct. Farm values are based on prices at first point of sale and may include marketing charges such as grading and packing for some commodities. The farm-retail spread, the difference between the retail price and the farm value, represents charges for assembling, processing, transporting, and distributing these foods. 2/ Estimated weighted average price of retail cuts from pork and choice yield grade 3 beef carcasses. Retail cut prices from BLS. 3/ Value of carcass quantity (beef) and wholesale cuts (pork) equivalent to 1 lb. of retail cuts; beef adjusted for value of fat and bone byproducts. 4/ Market value to Producer for quantity of live animal equivalent to 1 lb. of retail cuts minus value of byproducts. 5/ Represents charges for retailing and other marketing services such as fabricating, wholesaling, and in-city transportation. 6/ Represents charges made for livestock marketing, processing, and transportation to city where consumed.

Note: Annual historical data on farm-retail price spreads may be found in Food Cost Review, 1986. AER NO. 574, ERS, USDA.

Information contacts: Denis Dunham (202) 786-1870; Ron Gustafson (202) 786-1286.



Table 9.—Price Indexes of Food Marketing Costs

	Annual			1987			1988		
	1985	1986	1987	II	III	IV	I	II	III P
	1967=100								
Labor-hourly earnings and benefits	363.0	359.4	361.1	360.8	360.3	362.4	366.5	367.9	367.3
Processing	357.9	363.4	370.2	371.1	368.0	371.7	377.8	380.9	379.2
Wholesaling	382.7	376.3	384.2	382.4	384.3	387.1	390.6	392.0	395.1
Retailing	364.1	347.9	341.7	341.1	342.2	342.1	344.5	344.2	343.2
Packaging & containers	312.1	317.4	329.8	328.1	330.6	335.8	341.0	347.8	355.6
Paperboard boxes & containers	271.6	269.1	288.0	285.5	288.8	296.5	299.1	307.1	311.4
Metal cans	416.9	430.1	433.0	433.5	433.5	433.5	443.9	443.9	443.3
Paper bags & related products	294.7	307.9	331.3	328.8	333.4	342.4	351.1	359.9	382.2
Plastic films & bottles	274.4	274.8	280.2	278.0	280.1	284.7	288.3	302.4	315.0
Glass containers	380.0	398.0	402.0	403.3	401.4	400.1	400.0	398.7	398.6
Metal foil	213.8	209.3	222.1	213.1	226.3	241.2	249.0	256.9	277.5
Transportation services	393.9	391.7	385.0	385.3	385.4	385.3	399.6	405.2	404.4
Advertising	320.2	339.7	361.1	359.0	363.2	367.4	377.9	382.8	386.6
Fuel & power	700.0	590.2	596.7	592.4	612.2	602.4	575.7	585.1	580.9
Electric	453.5	457.9	450.5	448.6	465.5	444.7	440.3	446.8	474.9
Petroleum	821.5	499.8	561.4	541.3	582.5	601.4	526.7	534.0	472.4
Natural gas	1,158.2	1,096.9	1,049.0	1,064.7	1,057.2	1,027.6	1,021.3	1,042.7	1,049.1
Communications, water & sewage	224.9	236.1	238.4	237.7	239.7	239.5	239.9	240.9	241.3
Rent	268.3	273.8	279.4	279.2	280.6	281.2	280.6	280.3	280.3
Maintenance & repair	360.3	368.5	382.6	379.7	385.1	387.9	391.2	395.3	397.5
Business services	321.9	334.1	346.1	345.3	346.8	350.6	353.5	360.8	361.5
Supplies	287.9	282.8	286.8	286.2	287.1	290.2	294.9	302.2	310.2
Property taxes & insurance	362.0	382.3	399.6	397.3	401.2	408.3	412.8	416.2	422.5
Interest, short-term	157.2	125.1	132.9	134.0	137.5	143.5	131.4	142.0	159.7
Total marketing cost index	358.6	354.9	360.4	359.5	361.3	363.4	367.1	371.0	372.6

\* Indexes measure changes in employee earnings and benefits and in prices of supplies and services used in processing, wholesaling, and retailing U.S. farm foods purchased for at-home consumption. P = preliminary.

Information contact: Denis Dunham (202) 786-1870.

# Livestock & Products

Table 10.—U.S. Meat Supply & Use

	Beg. stocks	Pro- duc- tion 1/	Im- ports	Total supply	Ex- ports	Ship- ments	Ending stocks	Consumption		Primary market price 3/
								Total	Per capita 2/	
									Pounds	
Million pounds 4/										
Beef										
1986	420	24,371	2,129	26,919	521	52	412	25,935	78.4	57.75
1987	412	23,566	2,269	26,247	604	52	386	25,205	73.4	64.60
1988 F	386	23,452	2,375	26,213	636	61	375	25,141	72.5	68-70
1989 F	375	21,861	2,200	24,436	670	60	325	23,381	66.8	71-77
Pork										
1986	289	14,063	1,122	15,474	86	132	248	15,008	58.6	51.19
1987	248	14,374	1,195	15,817	109	124	347	15,237	59.1	51.69
1988 F	347	15,673	1,210	17,230	190	135	425	16,480	63.2	42-44
1989 F	425	15,787	1,200	17,387	130	140	300	16,817	63.6	42-48
Veal										
1986	11	524	27	562	5	1	7	550	1.9	60.89
1987	7	429	24	460	7	1	4	449	1.5	78.05
1988 F	4	411	26	441	9	1	5	426	1.4	89-91
1989 F	5	413	25	443	9	1	5	428	1.4	89-95
Lamb and mutton										
1986	13	338	41	392	2	2	13	375	1.4	70.26
1987	13	315	44	372	2	2	8	360	1.3	78.09
1988 F	8	334	55	397	1	1	9	386	1.4	66-68
1989 F	9	341	60	410	1	0	9	400	1.4	63-69
Total red meat										
1986	733	39,296	3,319	43,348	613	187	680	41,868	140.2	--
1987	680	38,684	3,533	42,897	722	179	744	41,251	135.3	--
1988 F	745	39,785	3,666	44,149	801	198	789	42,408	138.5	--
1989 F	789	38,352	3,485	42,626	810	201	639	40,976	133.2	--
Broilers										
1986	27	14,316	0	14,342	566	149	24	13,603	56.3	56.9
1987	24	15,594	0	15,618	752	151	25	14,691	60.2	47.4
1988 F	25	16,259	0	16,284	713	146	30	15,395	62.5	54-56
1989 F	30	16,950	0	16,980	665	140	25	16,150	65.0	51-57
Mature chicken										
1986	144	627	0	771	16	3	163	589	2.4	--
1987	163	650	0	814	15	2	188	608	2.5	--
1988 F	188	636	0	825	20	3	150	651	2.6	--
1989 F	150	648	0	798	18	4	150	626	2.5	--
Turkeys										
1986	150	3,271	0	3,422	27	4	178	3,212	13.3	72.2
1987	178	3,828	0	4,006	33	4	282	3,686	15.1	57.8
1988 F	282	4,044	0	4,327	45	3	150	4,128	16.8	62-64
1989 F	150	4,170	0	4,320	36	4	175	4,105	16.5	65-71
Total poultry										
1986	321	18,215	0	18,535	609	156	365	17,405	72.0	--
1987	365	20,072	0	20,437	800	157	495	18,985	77.8	--
1988 F	495	20,940	0	21,436	779	152	330	20,174	81.9	--
1989 F	330	21,768	0	22,098	719	148	350	20,881	84.1	--
Red meat & poultry										
1986	1,054	57,511	3,319	61,883	1,223	343	1,045	59,273	212.3	--
1987	1,045	58,756	3,533	63,334	1,522	336	1,240	60,236	213.2	--
1988 F	1,240	60,810	3,666	65,716	1,615	350	1,144	62,607	220.5	--
1989 F	1,144	60,145	3,485	64,774	1,529	349	989	61,907	217.4	--

1/ Total including farm production for red meats and federally inspected plus nonfederally inspected for poultry.  
 2/ Retail weight basis. (The beef carcass-to-retail conversion factor was .74 during 1962-85. It was lowered to .73 for 1986 and to .71 for 1987 and later.) 3/ Dollars per cwt for red meat; cents per pound for poultry. Beef: Choice steers, Omaha 1,000-1,100 lb.; pork: barrows and gilts, 7 markets; veal: farm price of calves; lamb and mutton: Choice slaughter lambs, San Angelo; broilers: wholesale 12-city average; turkeys: wholesale NY 8-16 lb. young hens. 4/ Carcass weight for red meats and certified ready-to-cook for poultry. F = forecast. -- = not available.

Information contacts: Ron Gustafson, Leland Southard, or Mark Weimar (202) 786-1285.

Table 11.—U.S. Egg Supply &amp; Use

	Beg. stocks	Pro- duc- tion	Im- ports	Total supply	Ex- ports	Ship- ments	Hatch- ing use	Ending stocks	Consumption		Wholesale price*
									Total	Per capita	
Million dozen											
1984	9.3	5,708.3	32.0	5,749.7	58.2	27.8	529.7	11.1	5,122.8	259.4	80.9
1985	11.1	5,688.0	12.7	5,711.8	70.6	30.3	548.1	10.7	5,052.0	253.3	66.4
1986	10.7	5,704.9	13.7	5,729.3	101.6	28.0	566.8	10.4	5,022.5	249.4	71.1
1987	10.4	5,796.5	5.6	5,812.5	111.2	25.1	595.0	14.4	5,066.7	249.3	61.6
1988 F	14.4	5,723.8	4.5	5,742.8	138.8	23.3	604.3	10.0	4,966.4	242.1	62-64
1989 F	10.0	5,652.5	4.0	5,639.0	106.0	24.0	630.0	10.0	4,869.0	235.3	69-75

\* Cartoned Grade A large eggs, New York. F = forecast.

Information contact: Robert Bishop (202) 786-1714.

Table 12.—U.S. Milk Supply & Use<sup>1</sup>

	Pro- duc- tion	Farm use	Commercial		Im- ports	Total commer- cial supply	CCC net re- movals	Commercial		All milk price 2/ \$/cwt
			Farm market- ings	Beg. stocks				Ending stocks	Disap- pearance	
1981	132.8	2.3	130.5	5.8	2.3	138.5	12.9	5.4	120.3	13.77
1982	135.5	2.4	133.1	5.4	2.5	141.0	14.3	4.6	122.1	13.61
1983	139.7	2.4	137.3	4.6	2.6	144.5	16.8	5.2	122.5	13.58
1984	135.4	2.9	132.5	5.2	2.7	140.5	8.6	4.9	126.9	13.46
1985	143.1	2.5	140.7	4.9	2.8	148.4	13.2	4.6	130.6	12.75
1986	143.4	2.4	141.0	4.6	2.7	148.3	10.6	4.2	133.5	12.51
1987	142.5	2.2	140.3	4.2	2.5	146.9	6.7	4.6	135.6	12.54
1988 F	144.6	2.2	142.4	4.6	2.5	149.5	8.6	4.2	136.7	12.15

1/ Milkfat basis. Totals may not add because of rounding. 2/ Delivered to plants and dealers; does not reflect deductions. F = forecast.

Information contact: Jim Miller (202) 786-1770.

Table 13.—Poultry &amp; Eggs

	Annual			1987	1988					
	1985	1986	1987	Sept	Apr	May	June	July	Aug	Sept
<b>Broilers</b>										
Federally inspected slaughter, certified (mil lb)	13,569.2	14,265.6	15,502.5	1,371.2	1,313.5	1,367.3	1,398.0	1,234.1	1,421.9	1,377.4
Wholesale price, 12-city, (cts/lb)	50.8	56.9	47.4	43.2	48.7	56.6	61.5	66.5	68.9	62.8
Price of grower feed (\$/ton)	197	187	224	192	181	181	179	248	246	245
Broiler-feed price ratio 1/	3.1	3.7	3.7	2.9	3.1	3.7	4.1	3.4	3.4	3.2
Stocks beginning of period (mil lb)	19.7	26.6	23.9	28.3	35.5	40.8	39.5	40.3	43.8	31.2
Broiler-type chicks hatched (mil) 2/	4,803.8	5,013.3	535.1	433.8	470.2	485.5	472.5	471.5	478.8	454.3
<b>Turkeys</b>										
Federally inspected slaughter, certified (mil lb)	2,800	3,133	3,717	383.9	276.6	331.3	372.4	323.3	377.3	365.7
Wholesale price, Eastern U.S., 8-16 lb. young hens (cts/lb)	75.5	72.2	57.8	56.1	46.9	49.3	57.1	70.8	70.5	76.0
Price of turkey grower feed (\$/ton)	212	215	213	216	210	212	211	272	268	269
Turkey-feed price ratio 1/	4.5	4.1	3.9	2.9	2.7	2.8	3.0	2.9	3.1	3.4
Stocks beginning of period (mil lb)	125.3	150.2	178.2	560.0	353.3	384.4	422.4	467.3	503.2	561.2
Poults placed in U.S. (mil)	197.8	225.4	26.5	15.0	24.6	25.3	25.9	23.9	19.3	16.0
<b>Eggs</b>										
Farm production (mil)	68,256	68,459	69,558	5,686	5,691	5,770	5,518	5,677	5,701	5,546
Average number of layers (mil)	277	278	280	281	275	272	269	268	269	272
Rate of lay (eggs per layer on farms)	247	248	248	20.2	20.7	21.2	20.5	21.2	21.2	20.4
Cartoned price, New York, grade A large (cts/doz) 3/	66.4	71.1	61.6	68.3	52.1	50.9	56.8	73.7	69.5	75.7
Price of laying feed (\$/ton)	182	174	170	179	175	176	176	236	237	236
Egg-feed price ratio 1/	6.3	7.0	7.6	6.5	5.2	4.9	5.2	4.9	4.9	5.4
<b>Stocks, first of month</b>										
Shell (mil doz)	.93	.72	1.16	.96	2.01	.42	.63	.90	.84	.75
Frozen (mil doz)	10.2	10.0	9.8	13.3	10.7	13.2	15.4	19.2	17.4	18.7
<b>Replacement chicks hatched (mil)</b>	407	424	431	31.8	35.1	35.8	33.0	24.8	27.3	30.6

1/ Pounds of feed equal in value to 1 dozen eggs or 1 lb. of broiler or turkey liveweight. 2/ Placement of broiler chicks is currently reported for 12 States only; henceforth, hatch of broiler-type chicks will be used as a substitute. 3/ Price of cartoned eggs to volume buyers for delivery to retailers.

Information contact: Mark Weimar (202) 786-1714.



Table 14.—Dairy

	Annual			1987	1988					
	1985	1986	1987	Sept	Apr	May	June	July	Aug	Sept
Milk prices, Minnesota-Wisconsin, 3.5% fat (\$/cwt) 1/	11.48	11.30	11.23	11.42	10.33	10.34	10.34	10.52	10.98	11.48
Wholesale prices										
Butter, Grade A Chi. (cts/lb)	141.1	144.5	140.2	145.3	131.0	131.0	133.5	135.9	135.6	134.3
Am. cheese, Wis. assembly pt. (cts/lb)	127.7	127.3	123.2	126.6	115.1	115.0	116.2	118.3	127.6	134.6
Nonfat dry milk, (cts/lb) 2/	84.0	80.6	79.3	80.4	73.1	73.4	74.2	77.1	80.6	87.2
USDA net removals										
Total milk equiv. (mil lb) 3/	13,174.1	10,628.1	6,706.0	349.9	1,235.8	1,226.7	550.7	248.9	240.0	142.3
Butter (mil lb)	334.2	287.6	187.3	10.0	42.7	42.4	13.1	5.2	7.8	5.0
Am. cheese (mil lb)	629.0	468.4	282.0	14.0	35.6	35.0	27.9	13.6	7.5	3.4
Nonfat dry milk (mil lb)	940.6	827.3	559.4	33.7	49.2	53.6	28.4	- .7	- .4	0
Milk										
Milk prod. 21 States (mil lb)	121,043	121,433	121,094	9,718	10,593	11,041	10,480	10,513	10,283	9,875
Milk per cow (lb)	13,160	13,399	13,932	1,124	1,229	1,280	1,220	1,225	1,199	1,151
Number of milk cows (thou)	9,198	9,063	8,692	8,645	8,618	8,627	8,588	8,579	8,578	8,583
U.S. milk production (mil lb)	143,147	143,381	142,462	6/11,417	6/12,482	6/13,010	6/12,348	6/12,356	6/12,086	6/11,606
Stock, beginning										
Total (mil lb)	16,704	13,695	12,867	10,585	10,787	10,457	10,535	11,149	11,277	10,872
Commercial (mil lb)	4,937	4,590	4,165	5,340	5,074	5,134	5,371	5,376	5,403	5,182
Government (mil lb)	11,767	9,105	8,702	5,245	5,712	5,323	5,164	5,772	5,874	5,691
Imports, total (mil lb) 3/	2,777	2,733	2,490	210	172	159	178	208	211	--
Commercial disappearance milk equiv. (mil lb)	130,640	133,498	135,630	11,050	11,177	11,518	11,789	12,101	12,091	--
Butter										
Production (mil lb)	1,247.8	1,202.4	1,104.1	77.9	111.7	107.9	91.7	75.9	74.2	83.0
Stocks, beginning (mil lb)	296.5	205.5	193.0	187.3	221.1	239.8	282.5	294.7	295.7	290.0
Commercial disappearance (mil lb)	918.2	922.9	902.5	63.1	76.3	57.5	84.4	70.6	65.5	--
American cheese										
Production (mil lb)	2,855.2	2,798.2	2,716.7	201.8	251.8	258.7	245.2	235.9	213.7	210.1
Stocks, beginning (mil lb)	960.5	850.2	697.1	533.6	365.4	377.0	384.0	413.0	415.8	385.1
Commercial disappearance (mil lb)	2,279.1	2,382.8	2,444.1	189.5	203.6	224.5	214.1	229.9	235.4	--
Other cheese										
Production (mil lb)	2,225.7	2,411.1	2,627.6	228.9	221.3	231.5	229.3	218.3	228.0	238.5
Stocks, beginning (mil lb)	101.4	94.1	92.0	96.9	89.0	92.7	93.4	99.4	107.4	109.9
Commercial disappearance (mil lb)	2,515.7	2,684.9	2,880.1	253.2	232.5	246.4	241.9	232.0	247.9	--
Nonfat dry milk										
Production (mil lb)	1,390.0	1,284.1	1,059.0	65.7	102.6	104.1	104.6	79.5	66.6	60.1
Stocks, beginning (mil lb)	1,247.6	1,011.1	686.8	301.8	151.1	171.4	180.5	160.4	138.5	92.9
Commercial disappearance (mil lb)	435.0	479.1	495.1	42.5	39.0	47.5	83.0	76.7	85.2	--
Frozen dessert										
Production (mil gal) 4/	1,251.0	1,248.6	1,263.4	107.5	107.9	120.1	139.0	132.0	132.3	110.0

1/ Manufacturing grade milk. 2/ Prices paid f.o.b. Central States production area, high heat spray process.  
3/ Milk-equivalent, fat-basis. 4/ Ice cream, ice milk, and hard sherbet. 5/ Based on average milk price after adjustment for price-support deductions. 6/ Estimated. -- = not available. P = preliminary.

Information contact: Jim Miller (202) 786-1770.

Table 15.—Wool

	Annual			1987	1988					
	1985	1986	1987	Sept	Apr	May	June	July	Aug	Sept
U.S. wool price, Boston 1/ (cts/lb)	192	191	265	295	453	463	460	450	450	450
Imported wool price, Boston 2/ (cts/lb)	197	201	247	234	441	423	378	364	355	352
U.S. mill consumption, scoured										
Apparel wool (thou lb)	106,051	126,768	129,677	11,674	10,138	9,601	13,598	9,798	9,666	10,614
Carpet wool (thou lb)	10,562	9,960	13,092	1,174	1,344	1,282	1,241	1,089	1,657	1,715

1/ Wool price delivered at U.S. mills, clean basis, Graded Territory 64's (20.60-22.04 microns) staple 2-3/4" and up.  
2/ Wool price delivered at U.S. mills, clean basis, Australian 60/62's, type 64A (24 micron). Duty since 1982 has been 10.0 cents.

Information contact: John Lawler (202) 786-1840.

Table 16.—Meat Animals

	Annual			1987	1988					
	1985	1986	1987	Sept	Apr	May	June	July	Aug	Sept
Cattle on feed (7 States)										
Number on feed (thou head) 1/	8,635	7,920	7,643	6,818	7,726	7,504	7,814	7,421	6,840	6,674
Placed on feed (thou head)	19,346	20,035	21,020	2,429	1,531	2,170	1,367	1,246	1,618	2,184
Marketings (thou head)	18,989	19,263	19,390	1,641	1,614	1,719	1,692	1,765	1,720	1,662
Other disappearance (thou head)	1,132	1,049	1,207	71	139	141	68	62	64	67
Beef steer-corn price ratio, Omaha 2/	23.3	31.0	41.0	42.8	39.3	38.6	27.9	24.5	26.2	26.4
Hog-corn price ratio, Omaha 2/	17.8	27.8	32.8	36.3	22.5	24.3	18.9	16.8	17.8	15.9
Market prices (\$/cwt)										
Slaughter cattle										
Choice steers, Omaha	58.37	57.75	64.60	64.81	72.71	75.15	70.58	65.96	67.08	67.71
Utility cows, Omaha	38.32	37.19	44.83	47.62	49.41	48.79	42.68	45.39	47.33	48.42
Choice vealers, S. St. Paul 3/	58.28	59.92	78.74	80.25	96.41	97.66	100.88	77.50	87.50	240.42
Feeder cattle										
Choice, Kansas City, 600-700 lb.	64.56	62.79	75.36	81.50	86.50	82.88	77.38	79.08	84.65	84.00
Slaughter hogs										
Barrows & gilts, 7-markets	44.77	51.19	51.69	54.72	42.10	47.55	48.06	45.57	46.10	41.04
Feeder pigs										
S. Mo. 40-50 lb. (per head)	37.20	45.62	46.69	47.28	52.16	46.85	31.40	27.57	27.40	28.30
Slaughter sheep & lambs										
Lambs, Choice, San Angelo	68.61	69.46	78.08	70.05	76.50	72.67	59.38	59.00	57.05	61.00
Ewes, Good, San Angelo	34.02	34.78	38.62	39.81	40.17	36.38	36.30	37.83	38.20	37.38
Feeder lambs										
Choice, San Angelo	85.91	73.14	102.26	102.55	100.25	90.63	77.80	79.67	79.50	78.56
Wholesale meat prices, Midwest										
Choice steer beef, 600-700 lb.	90.76	88.98	97.21	96.87	105.25	111.70	106.38	97.09	101.04	103.15
Canner & cutter cow beef	74.13	71.31	83.70	86.82	89.69	89.88	81.28	85.74	86.51	87.73
Pork loins, 8-14 lb. 4/	91.51	104.78	106.23	122.66	94.03	112.75	111.31	104.96	106.88	97.92
Pork bellies, 12-14 lb.	59.50	65.82	63.11	59.74	43.13	46.09	45.51	40.84	37.48	33.28
Hams, skinned, 14-17 lb.	67.50	80.01	80.96	93.58	68.27	67.70	66.51	65.90	67.16	73.20
All fresh beef retail price 5/	--	--	212.64	214.51	219.68	221.54	227.18	226.07	224.30	225.41
Commercial slaughter (thou head)*										
Cattle	36,293	37,288	35,647	3,068	2,784	2,908	3,067	2,982	3,206	3,011
Steers	16,912	17,516	17,443	1,423	1,448	1,509	1,548	1,494	1,567	1,437
Heifers	11,237	11,097	10,906	1,054	823	850	913	927	1,039	994
Cows	7,391	7,960	6,610	527	462	494	548	512	542	522
Bulls & stags	758	715	689	64	51	55	58	49	58	58
Calves	3,385	3,408	2,815	240	176	179	212	215	234	215
Sheep & lambs	6,165	5,635	5,200	474	404	427	428	405	462	469
Hogs	84,492	79,598	81,081	7,027	7,090	6,881	6,898	6,365	7,284	7,715
Commercial production (mil lb)										
Beef	23,557	24,213	23,405	2,040	1,842	1,918	2,024	1,982	2,162	2,042
Veal	499	509	416	35	28	30	34	31	35	33
Lamb & mutton	352	331	309	28	26	27	27	24	28	28
Pork	14,728	13,988	14,312	1,227	1,263	1,231	1,232	1,133	1,281	1,359
	Annual			1987	1988					
	1985	1986	1987	II	III	IV	I	II	III	IV
Cattle on feed (13 States)										
Number on feed (thou head) 1/	10,653	9,754	9,245	8,807	8,666	8,992	9,769	9,365	8,991	8,576
Placed on feed (thou head)	23,366	23,583	24,874	5,906	6,590	6,698	5,796	5,898	5,959	--
Marketings (thou head)	22,887	22,856	22,971	5,619	6,022	5,583	5,810	5,854	6,151	7/5,560
Other disappearance (thou head)	1,378	1,236	1,379	428	242	338	390	418	223	--
Hogs & pigs (10 States) 6/										
Inventory (thou head) 1/	42,420	41,100	39,690	38,370	40,880	43,075	42,845	41,145	44,040	45,070
Breeding (thou head) 1/	5,348	5,258	5,110	5,215	5,325	5,300	5,465	5,500	5,625	5,470
Market (thou head) 1/	37,072	35,842	34,580	33,155	35,555	37,775	37,380	35,645	38,415	39,600
Farrowings (thou head)	8,831	8,223	8,783	2,352	2,257	2,259	2,103	2,552	2,343	6/2,345
Pig crop (thou head)	67,648	63,835	68,417	18,601	17,481	17,503	16,331	19,968	17,877	--

1/ Beginning of period. 2/ Bushels of corn equal in value to 100 pounds live weight. 3/ Per head starting September 1988. 4/ Beginning January 1984 prices are for 14-17 lb.; January 1986 prices are for 14-18 lb. 5/ New series estimating the composite price of all beef grades and ground beef sold by retail stores. This new series in addition to, but does not replace, the series for the retail price of Choice beef that appears in table 8. 6/ quarters are Dec. of preceding year-Feb. (I), Mar.-May (II), June-Aug. (III), and Sept.-Nov. (IV). 7/ Intentions. \*Classes estimated. -- = not available.

Information contacts: Ron Gustafson or Leland Southard (202) 786-1285.

# Crops & Products

Table 17.—Supply & Utilization<sup>1,2</sup>

	Area						Feed and residual	Other domestic use	Exports	Total use	Ending stocks	Farm price \$/5/
	Set aside 3/	Planted	Harvested	Yield	Production	Total supply 4/						
	Mil acres			Bu/acre								\$/bu
Wheat												
1983/84	30.0	76.4	61.4	39.4	2,420	3,939	369	742	1,429	2,540	1,399	3.51
1984/85	18.3	79.2	66.9	38.8	2,595	4,003	405	749	1,424	2,578	1,425	3.39
1985/86	18.8	75.6	64.7	37.5	2,425	3,866	279	767	915	1,961	1,905	3.08
1986/87*	20.2	72.1	60.7	34.4	2,092	4,018	413	780	1,004	2,197	1,821	2.42
1987/88*	27.9	65.8	55.9	37.6	2,105	3,941	300	805	1,600	2,705	1,236	2.57
1988/89*	30.1	65.7	53.3	34.0	1,812	3,083	270	835	1,450	2,555	528	3.55-3.85
	Mil acres			Lb/acre				Mil cwt (rough equiv.)				\$/cwt
Rice												
1983/84	1.74	2.19	2.17	4,598	99.7	172.1	--	6/54.9	70.3	125.0	46.9	8.57
1984/85	.79	2.83	2.80	4,954	138.8	187.3	--	6/60.5	62.1	122.6	64.7	8.04
1985/86	1.24	2.51	2.49	5,414	134.9	201.8	--	6/65.8	58.7	124.5	77.3	6.53
1986/87*	1.48	2.38	2.36	5,651	133.4	213.3	--	6/77.7	84.2	161.9	51.4	3.75
1987/88*	1.51	2.35	2.33	5,482	127.7	182.1	--	6/78.5	72.2	150.7	31.4	6.95
1988/89*	.93	2.88	2.86	5,547	158.4	193.1	--	6/82.2	77.0	159.2	33.8	5.00-7.00
	Mil acres			Bu/acre				Mil bu				\$/bu
Corn												
1983/84	32.2	60.2	51.5	81.1	4,175	7,700	3,818	975	1,901	6,694	1,006	3.21
1984/85	3.9	80.5	71.9	106.7	7,674	8,684	4,079	1,091	1,865	7,036	1,648	2.63
1985/86	5.4	83.4	75.2	118.0	8,877	10,536	4,095	1,160	1,241	6,496	4,040	2.23
1986/87*	12.7	76.7	69.2	119.3	8,250	12,291	4,714	1,192	1,504	7,410	4,882	1.50
1987/88*	23.0	65.7	59.2	119.4	7,064	11,950	4,746	1,224	1,720	7,690	4,260	1.94
1988/89*	20.8	67.5	56.7	82.3	4,671	8,936	4,500	1,215	1,775	7,490	1,446	2.40-2.80
	Mil acres			Bu/acre				Mil bu				\$/bu
Sorghum												
1983/84	5.7	11.9	10.0	48.7	488	927	385	10	245	640	287	2.74
1984/85	.6	17.3	15.4	56.4	866	1,154	539	18	297	854	300	2.32
1985/86	.9	18.3	16.8	66.8	1,120	1,420	664	28	178	869	551	1.93
1986/87*	2.3	15.3	13.9	67.7	938	1,489	533	15	198	746	743	1.37
1987/88*	4.1	11.8	10.6	69.9	741	1,484	573	14	235	822	663	1.70
1988/89*	4.0	10.5	9.0	60.6	546	1,209	550	15	200	765	444	2.15-2.55
	Mil acres			Bu/acre				Mil bu				\$/bu
Barley												
1983/84	1.1	10.4	9.7	52.3	509	733	282	170	92	544	189	2.47
1984/85	.5	12.0	11.2	53.4	599	799	304	170	77	551	247	2.29
1985/86	.7	13.2	11.6	51.0	591	848	333	169	22	523	325	1.98
1986/87*	1.8	13.1	12.0	50.8	611	942	296	174	137	606	336	1.61
1987/88*	2.9	11.0	10.0	52.6	527	876	255	174	126	555	321	1.81
1988/89*	2.9	9.7	7.4	38.2	283	624	240	175	50	465	159	2.50-2.90
	Mil acres			Bu/acre				Mil bu				\$/bu
Oats												
1983/84	.3	20.3	9.1	52.6	477	727	466	78	2	546	181	1.62
1984/85	.1	12.4	8.2	58.0	474	689	433	74	1	509	180	1.67
1985/86	.1	13.3	8.2	63.7	521	728	460	82	2	544	184	1.23
1986/87*	.4	14.7	6.9	56.3	386	603	395	73	3	471	133	1.21
1987/88*	.8	18.0	6.9	54.0	374	553	360	79	1	441	112	1.56
1988/89*	.3	14.0	5.4	39.1	211	383	215	86	1	302	81	2.50-2.85
	Mil acres			Bu/acre				Mil bu				\$/bu
Soybeans												
1983/84	0	63.8	62.5	26.2	1,636	1,981	7/79	983	743	1,805	176	7.83
1984/85	0	67.8	66.1	28.1	1,861	2,037	7/93	1,030	598	1,721	316	5.84
1985/86	0	63.1	61.6	34.1	2,099	2,415	7/86	1,053	760	1,879	536	5.05
1986/87*	0	60.4	58.3	33.3	1,940	2,476	7/104	1,179	757	2,040	436	4.78
1987/88*	0	58.0	57.0	33.7	1,923	2,359	7/83	1,174	800	2,057	302	6.15
1988/89*	0	58.8	56.8	26.6	1,512	1,814	7/94	1,030	565	1,689	125	6.75-8.75
	Mil acres			Bu/acre				Mil lbs				8/ Cts/lb
Soybean oil												
1983/84	--	--	--	--	10,872	12,133	--	9,588	1,824	11,412	721	30.60
1984/85	--	--	--	--	11,468	12,209	--	9,917	1,660	11,577	632	29.50
1985/86	--	--	--	--	11,617	12,257	--	10,053	1,257	11,310	947	18.00
1986/87*	--	--	--	--	12,783	13,745	--	10,833	1,187	12,020	1,725	19.40
1987/88*	--	--	--	--	9/ 13,200	14,925	--	10,942	1,900	12,842	2,083	22.65
1988/89*	--	--	--	--	9/ 11,500	13,650	--	11,050	1,350	12,400	1,250	22.00-27.00
	Mil acres			Bu/acre				Thou tons				10/ \$/ton
Soybean meal												
1983/84	--	--	--	--	22,756	23,230	--	17,615	5,360	22,975	255	188
1984/85	--	--	--	--	24,529	24,784	--	19,480	4,917	24,397	387	125
1985/86	--	--	--	--	24,951	25,338	--	19,090	6,036	25,126	212	155
1986/87*	--	--	--	--	27,758	27,970	--	20,387	7,343	27,730	240	163
1987/88*	--	--	--	--	28,060	28,300	--	21,396	6,750	28,146	154	222
1988/89*	--	--	--	--	24,250	24,500	--	20,000	4,200	24,300	300	225-275

See footnotes at end of table.



Table 17.—Supply &amp; Utilization, continued

	Area			Yield	Production	Total supply	Feed and residual	Other domestic use	Exports	Total use	Ending stocks	Farm price
	Set aside	Planted	Harvested									
	3/					4/						5/
		Mil acres		Lb/acre				Mil bales				Cts/lb
Cotton 11/												
1983/84	6.8	7.9	7.3	508	7.8	15.7	--	5.9	6.8	12.7	2.8	65.30
1984/85	2.5	11.1	10.4	600	13.0	15.8	--	5.5	6.2	11.8	4.1	58.70
1985/86	3.6	10.7	10.2	630	13.4	17.6	--	6.4	2.0	8.4	9.4	56.50
1986/87*	3.4	10.0	8.5	552	9.7	19.1	--	7.4	6.7	14.1	5.0	52.40
1987/88*	3.2	10.4	10.0	706	14.8	19.8	--	7.6	6.6	14.2	5.8	64.20
1988/89*	1.6	12.2	11.6	612	14.8	20.6	--	6.9	5.0	11.9	8.8	--

\*November 9, 1988 Supply and Demand Estimates. 1/ Marketing year beginning June 1 for wheat, barley, and oats, August 1 for cotton and rice, September 1 for soybeans, corn, and sorghum, October 1 for soybean meal, and soybean oil. 2/ Conversion factors: Hectare (ha.) = 2.471 acres, 1 metric ton = 2,204.622 pounds, 36.7437 bushels of wheat or soybeans, 39.3679 bushels of corn or sorghum, 45.9296 bushels of barley, 68.8944 bushels of oats, 22.046 cwt. of rice, and 4.59 480-pound bales of cotton. 3/ Includes diversion, PIK, and acreage reduction programs. 4/ Includes imports. 5/ Market average prices do not include an allowance for loans outstanding and Government purchases. 6/ Residual included in domestic use. 7/ Includes seed. 8/ Average of crude soybean oil, Decatur. 9/ Includes 225 million pounds in imports for 1987/88 and 200 million in 1988/89. 10/ Average of 44 percent, Decatur. 11/ Upland and extra long staple. Stock estimates based on Census Bureau data which results in an unaccounted difference between supply and use estimates and changes in ending stocks. -- = not available.

Information contact: Commodity Economics Division, Crops Branch (202) 786-1840.

Table 18.—Food Grains

	Marketing year 1/				1987	1988					
	1984/85	1985/86	1986/87	1987/88		Sept	May	June	July	Aug	Sept
Wholesale prices											
Wheat, No. 1 HRW, Kansas City (\$/bu) 2/	3.74	3.28	2.72	2.96	2.78	3.20	3.79	3.77	3.78	4.05	
Wheat, DNS, Minneapolis (\$/bu) 2/	3.70	3.25	2.62	2.92	2.74	3.30	4.17	3.96	4.09	4.16	
Rice, S.W. La. (\$/cwt) 3/	17.98	16.11	10.25	19.25	12.05	20.75	18.85	17.90	16.65	16.05	
Wheat											
Exports (mil bu)	1,424	915	1,004	1,592	124	154	129	120	114	--	
Mill grind (mil bu)	676	703	755	753	65	65	63	63	69	--	
Wheat flour production (mil cwt)	301	314	335	336	29	29	28	28	31	--	
Rice											
Exports (mil cwt, rough equiv)	62.1	58.7	84.2	72.2	6.7	7.0	4.0	5.6	3.6	--	

	Marketing year 1/			1987			1988			
	1985/86	1986/87	1987/88	Mar-May	Jun-Aug	Sept-Nov	Dec-Feb	Mar-May	Jun-Aug	Sept-Nov
Wheat										
Stocks, beginning (mil bu)	1,425	1,905	1,821	2,250.4	1,820.9	2,988.5	2,505.3	1,923.4	1,255.7	2,239.6
Domestic use										
Food (mil bu)	674	696	719	174.3	179.3	191.1	168.6	180.0	183.0	197.0
Seed, feed & residual (mil bu) 4/	372	497	378	45.7	353.5	11.4	2.9	8.0	290.4	121.6
Exports (mil bu)	915	1,004	1,592	216.8	409.9	308.5	413.1	460.6	363.4	318.6

1/ Beginning June 1 for wheat and August 1 for rice. 2/ Ordinary protein. 3/ Long-grain, milled basis. 4/ Residual includes feed use. -- = not available.

Information contacts: Ed Allen and Janet Livezey (202) 786-1840.

Table 19.—Cotton

	Marketing year 1/				1987	1988				
	1984/85	1985/86	1986/87	1987/88	Sept	May	June	July	Aug	Sept
U.S. price, SLM, 1-1/16 in. (cts/lb) 2/	60.5	60.0	53.2	63.1	71.4	61.6	62.9	57.4	55.2	51.3
Northern Europe prices Index (cts/lb) 3/	69.2	48.9	62.0	72.7	83.6	65.6	68.8	68.2	57.7	56.8
U.S. M 1-3/32 in. (cts/lb) 4/	73.9	64.8	61.8	76.3	83.1	75.3	80.0	76.6	60.8	60.5
U.S. mill consumption (thou bales)	5,545	6,399	7,452	7,617	694	630	603	477	676	624
Exports (thou bales)	6,201	1,969	6,684	6,582	315	517	554	320	265	183
Stocks, beginning (thou bales)	2,775	4,102	9,348	5,026	4,380	8,689	7,542	6,386	5,771	5,655

1/ Beginning August 1. 2/ Average spot market. 3/ Liverpool Outlook (A) index; average of 5 lowest priced of 11 selected growths. 4/ Memphis territory growths.

Information contact: Bob Skinner (202) 786-1840.

Table 20.—Feed Grains

	Marketing year 1/				1987	1988				
	1984/85	1985/86	1986/87	1987/88	Sept	May	June	July	Aug	Sept
<b>Wholesale prices</b>										
Corn, No. 2 yellow, Chicago (\$/bu)	2.79	2.35	1.64	2.14	1.62	2.09	2.74	2.80	2.79	2.79
Sorghum, No. 2 yellow, Kansas City (\$/cwt)	4.46	3.72	2.73	3.40	2.64	3.21	4.58	4.79	4.28	4.27
Barley, feed, Duluth (\$/bu) 2/	2.09	1.53	1.44	1.78	1.76	1.98	2.41	2.31	2.08	2.24
Barley, malting, Minneapolis (\$/bu)	2.55	2.24	1.89	2.04	1.98	2.24	3.61	3.87	4.25	4.40
<b>Exports</b>										
Corn (mil bu)	1,865	1,241	1,504	1,720	135.4	181.2	133.8	126.5	153.2	--
Feed grains (mil metric tons) 3/	56.6	36.6	46.3	52.9	4.1	5.3	4.0	4.0	4.3	--
	Marketing year 1/				1987	1988				
	1984/85	1985/86	1986/87	1987/88	Jun-Aug	Sept-Nov	Dec-Feb	Mar-May	Jun-Aug	Sept-Nov
<b>Corn</b>										
Stocks, beginning (mil bu)	1,006	1,648	4,040	4,882	6,332	4,882	9,769	7,635	5,836	4,260
Domestic use										
Feed (mil bu)	4,079	4,095	4,714	4,746	768	1,488	1,444	960	857	--
Food, seed, ind. (mil bu)	1,091	1,160	1,192	1,224	315	292	282	330	320	--
Exports (mil bu)	1,865	1,241	1,504	1,720	368	398	408	514	414	--
Total use (mil bu)	7,036	6,496	7,410	7,690	1,451	2,178	2,134	1,804	1,577	--

1/ September 1 for corn and sorghum; June 1 for oats and barley. 2/ Beginning March 1987 reporting point changed from Minneapolis to Duluth. 3/ Aggregated data for corn, sorghum, oats, and barley. -- = not available.

Information contact: James Cole (202) 786-1840.

Table 21.—Fats & Oils

	Marketing year 1/				1987	1988				
	1983/84	1984/85	1985/86	1986/87	Aug	Apr	May	June	July	Aug
<b>Soybeans</b>										
Wholesale price, No. 1 yellow, Chicago (\$/bu) 2/	7.78	5.88	5.20	5.03	5.02	6.64	7.29	9.11	8.55	8.25
Crushings (mil bu)	982.7	1,030.5	1,052.8	1,178.8	82.4	102.6	98.0	89.2	88.0	78.3
Exports (mil bu)	742.8	600.7	740.7	756.9	54.5	65.1	39.7	29.3	29.5	35.8
Stocks, beginning (mil bu)	344.6	175.7	316.0	536.0	49.8	133.8	113.9	95.4	90.1	66.2
<b>Soybean oil</b>										
Wholesale price, crude, Decatur (cts/lb)	30.55	29.52	18.02	15.36	15.16	21.67	26.55	27.68	29.65	27.16
Production (mil lb)	10,862.8	11,467.9	11,617.3	12,783.1	891.3	1,132.7	1,087.5	996.4	994.2	878.6
Domestic disp. (mil lb)	9,589.6	9,888.5	10,045.9	10,820.1	835.0	1,002.5	763.7	936.8	994.7	789.7
Exports (mil lb)	1,813.7	1,659.9	1,257.3	1,184.5	261.0	87.7	138.6	269.0	157.2	78.9
Stocks, beginning (mil lb)	1,260.9	720.5	632.5	946.6	2,184.2	2,342.8	2,385.2	2,570.4	2,361.0	2,203.3
<b>Soybean meal</b>										
Wholesale price, 44% protein, Decatur (\$/ton)	188.21	125.46	154.88	162.61	169.90	200.40	223.50	287.80	255.60	255.10
Production (thou ton)	22,756.2	24,529.9	24,951.3	27,758.8	1,948.9	2,449.9	2,339.9	2,129.0	2,110.3	1,872.5
Domestic disp. (thou ton)	17,538.8	19,481.3	19,117.2	20,387.4	1,558.5	1,654.9	1,667.1	1,723.4	1,666.2	1,759.7
Exports (thou ton)	5,436.1	4,916.5	6,009.3	7,343.0	382.0	739.1	716.7	366.8	301.1	285.6
Stocks, beginning (thou ton)	474.1	255.4	386.9	211.7	292.9	243.7	299.5	255.6	294.4	437.4
<b>Margarine, wholesale price, Chicago, white (cts/lb)</b>										
	46.3	55.5	51.2	40.3	39.20	47.19	49.00	52.06	58.81	58.06

1/ Beginning September 1 for soybeans; October 1 for soybean meal and oil; calendar year for margarine. 2/ Beginning April 1, 1982, prices based on 30-day delivery, using upper end of the range.

Information contacts: Roger Hoskin (202) 786-1840; Tom Bickerton (202) 786-1824.

Table 22.—Farm Programs, Price Supports, Participation &amp; Payment Rates

	Target price	Loan rate	Findley loan rate	Payment rates		PIK	Base acres	Program 1/	Participation rate 2/
				Deficiency	Paid land diversion				
			\$/bu			Percent 3/	Mill acres		Percent of base
Wheat									
1983/84	4.30	3.65		.65	2.70	95	90.9	15/5/10-30	78/78/51
1984/85	4.38	3.30		1.00	2.70	85	94.0	20/10/10-20	60/60/20
1985/86	4.38	3.30		1.08	2.70		94.0	20/10/0	73
1986/87 4/	4.38	3.00	2.40	1.98	2.00	1.10	92.2	22.5/2.5/5-10	85/85/21
1987/88	4.38	2.85	2.28	1.78			91.7	27.5/0/0	87
1988/89	4.23	2.76	2.21	1.53			91.8	27.5/0/0	83
1989/90	4.10	2.58	2.06					10/0/0	
			\$/cwt						
Rice									
1983/84	11.40	8.14		2.77	2.70	80	3.95	15/5/10-30	98/98/87
1984/85	11.90	8.00		3.76			4.16	25/0/0	85
1985/86	11.90	8.00	5/3.16	3.90	3.50		4.23	20/15/0	90
1986/87 4/	11.90	7.20	5/3.82	4.70			4.20	35/0/0	95
1987/88	11.66	6.84	5/5.72	4.82			4.18	35/0/0	95
1988/89	11.15	6.63	5/4.80	1.65			4.17	25/0/0	92
1989/90	10.80								
			\$/bu						
Corn									
1983/84	2.86	2.65		0	1.50	80	82.6	10/10/10-30	71/71/60
1984/85	3.03	2.55		.43			80.8	10/0/0	54
1985/86	3.03	2.55		.48			84.2	10/0/0	69
1986/87 4/	3.03	2.40	1.92	1.11	.73		81.9	17.5/2.5/0	86
1987/88	3.03	2.28	1.82	1.09	2.00		83.3	20/15/0	90
1988/89	2.93	2.21	1.77	1.10	1.75			20/10/0; 0/92	90
1989/90	2.84	2.06	1.65					10/0/0; 0/92	
			\$/bu						
Sorghum									
1983/84	2.72	2.52		0	1.50	.80	18.0	6/[same]	72/72/53
1984/85	2.88	2.42		.46			18.2		42
1985/86	2.88	2.42		.46			19.3		55
1986/87 4/	2.88	2.28	1.82	1.06	.65		19.0		75
1987/88	2.88	2.18	1.74	1.14	1.90		17.4		83/42
1988/89	2.78	2.10	1.68	1.08	1.65		17.0		81
1989/90	2.70	1.96	1.57						
			\$/bu						
Barley									
1983/84	2.60	2.16		.21	1.00		11.0	6/[same]	55/55/0
1984/85	2.60	2.08		.26			11.6		44
1985/86	2.60	2.08		.52			13.3		57
1986/87 4/	2.60	1.95	1.56	.99	.57		12.4		72
1987/88	2.60	1.86	1.49	.79	1.60		12.9		84

1/ Percentage of base acres that farmers participating in Acreage Reduction Programs/Paid Land Diversion/PIK were required to devote to conserving uses to receive program benefits. In addition to the percentages shown for 1983/84, farmers had the option of submitting bids to retire their entire base acreages. 2/ Percentage of base acres enrolled in Acreage Reduction Programs/Paid Land Diversion/PIK. 3/ Percent of program yield, except 1986/87 wheat, which is dollars per bushel. 1983 and 1984 PIK rates apply only to the 10-30 and 10-20 portions, respectively. 4/ Payment rates for payments received in cash were reduced by 4.3 percent in 1986/87 due to Gramm-Rudman-Hollings. 5/ Annual average world market price. 6/ The sorghum, oats, and barley programs were the same as for corn each year except 1983/84, when PIK was not offered on barley and oats, and in 1988 for oats. 7/ There are no target prices, acreage programs, or payment rates for soybeans. 8/ Loan repayment rate. 9/ Loans may be repaid at the lower of the loan rate or world market prices. 10/ Guaranteed to farmers signed up for 0/92.

Information contact: James Cole (202) 786-1840.



**Table 23.—Fruit**

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987 P	1988 F
<b>Citrus 1/</b>												
Production (thou ton)	14,255	13,329	16,484	15,105	12,057	13,608	10,792	10,488	11,014	11,600	12,584	13,484
Per capita consumption (lbs) 2/	115.1	107.5	108.4	112.6	104.4	109.3	119.9	102.9	109.1	118.0	114.9	--
<b>Noncitrus 3/</b>												
Production (thou tons)	12,274	12,460	13,689	15,152	12,961	14,217	14,154	14,292	14,189	13,917	15,949	--
Per capita consumption (lbs) 2/	84.5	83.0	85.7	87.3	88.0	89.0	88.9	93.7	92.3	95.7	101.9	--
	1987			1988								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept
<b>F.o.b. shipping point prices</b>												
Apples (\$/carton) 4/	7.93	7.83	8.98	7.75	11.50	11.08	10.96	10.98	14.21	23.87	23.05	20.45
Pears (\$/box) 5/	12.00	10.82	9.70	9.26	11.18	8.94	12.88	15.14	17.50	--	--	--
Oranges (\$/box) 6/	10.42	8.52	5.57	5.64	6.30	6.24	6.80	8.26	8.43	6.46	4.92	4.17
Grapefruit (\$/box) 6/	8.58	6.37	5.80	5.63	5.45	5.02	4.92	4.53	3.36	4.85	4.09	7.34
<b>Stocks, ending</b>												
Fresh apples (mil lbs)	5,390.2	4,697.2	3,311.6	3,158.9	2,417.4	1,584.1	1,092.7	552.2	248.1	95.0	5.1	1,864.6
Fresh pears (mil lbs)	425.8	338.8	279.4	198.4	148.4	99.7	49.2	17.9	2.7	--	117.6	434.7
Frozen fruits (mil lbs)	957.9	943.1	858.2	790.4	720.1	634.6	593.3	548.5	657.3	864.0	981.4	983.0
Frozen orange juice (mil lbs)	652.8	569.0	662.4	980.4	1,073.1	1,004.1	1,018.7	1,120.1	1,154.7	1,001.8	862.5	684.8

1/ Crop year beginning with year indicated. 2/ Per capita consumption for total U.S. population, including military consumption of both fresh and processed fruit in fresh weight equivalent. 3/ Calendar year. 4/ Red Delicious, Washington, extra fancy, carton tray pack, 80-113's. 5/ D'Anjou, Washington, standard box wrapped, U.S. No. 1, 90-135's. 6/ U.S. equivalent on-tree returns. P = preliminary. F = forecast. -- = not available.

Information contact: Ben Huang (202) 786-1885.

**Table 24.—Vegetables**

	Calendar year												
	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987			
Production													
Total vegetables (1,000 cwt) 1/	382,165	413,925	381,370	379,123	431,515	403,320	457,392	453,769	445,436	463,888			
Fresh (1,000 cwt) 1/ 2/	182,563	190,859	190,228	194,694	207,924	197,919	217,132	217,932	216,267	219,598			
Processed (tons) 3/	9,980,100	11,153,300	9,557,100	9,221,460	11,179,590	10,270,050	12,013,020	11,791,860	11,616,560	12,214,490			
Mushrooms (1,000 lbs)	454,007	470,069	469,576	517,146	490,826	561,531	595,681	587,956	614,393	631,690			
Potatoes (1,000 cwt)	366,314	342,447	302,857	338,591	355,131	333,911	362,612	407,109	361,511	385,774			
Sweetpotatoes (1,000 cwt)	13,115	13,370	10,953	12,799	14,833	12,083	12,986	14,853	12,674	12,103			
Dry edible beans (1,000 cwt)	18,935	20,552	26,729	32,751	25,563	15,520	21,070	22,175	22,886	26,309			
	1987						1988						
	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept
Shipments													
Fresh (1,000 cwt) 4/	20,213	16,194	15,445	18,964	17,690	23,141	18,271	18,927	26,488	36,998	21,645	25,622	24,709
Potatoes (1,000 cwt)	11,384	9,718	11,021	10,685	11,759	12,702	8,890	14,970	12,356	12,818	12,317	12,466	13,590
Sweetpotatoes (1,000 cwt)	322	359	795	518	354	343	366	218	174	127	91	212	262

1/ 1983 data are not comparable with 1984 and 1985. 2/ Estimate reinstated for asparagus with the 1984 crop; all other years also include broccoli, carrots, cauliflower, celery, sweet corn, lettuce, honeydews, onions, and tomatoes. 3/ Estimates reinstated for cucumbers with the 1984 crop; all other years also include snap beans, sweet corn, green peas, and tomatoes. 4/ Includes snap beans, broccoli, cabbage, carrots, cauliflower, celery, sweet corn, cucumbers, eggplant, lettuce, onions, bell peppers, squash, tomatoes, cantaloupes, honeydews, and watermelons.

Information contacts: Shannon Hamm or Cathy Greene (202) 786-1884.

**Table 25.—Other Commodities**

	Annual					1987		1988		
	1983	1984	1985	1986	1987	July-Sept	Oct-Dec	Jan-Mar	Apr-June	July-Sept
<b>Sugar</b>										
Production 1/	5,682	5,890	5,969	6,257	7,309	866	3,653	2,079	774	755
Deliveries 1/	8,812	8,454	8,035	7,786	8,167	2,146	2,112	1,951	1,983	2,147
Stocks, ending 1/	2,570	3,005	3,126	3,225	3,195	1,497	3,195	3,567	2,467	1,316
<b>Coffee</b>										
Composite green price										
N.Y. (cts/lb)	131.51	142.95	137.46	185.18	109.14	99.16	116.12	121.98	121.44	114.20 P
Imports, green bean										
equiv. (mil lbs) 2/	2,259	2,411	2,550	2,596	2,638	645	640	585	450	595 P
	Annual			1988						
	1985	1986	1987 P	Aug	Mar	Apr	May	June	July	Aug
<b>Tobacco</b>										
Prices at auctions 3/										
Flue-cured (\$/lb)	1.72	1.52	--	1.48	NQ	NQ	NQ	NQ	NQ	1.47
Burley (\$/lb)	1.59	1.57	--	NQ	NQ	NQ	NQ	NQ	NQ	NQ
<b>Domestic consumption 4/</b>										
Cigarettes (bil)	594.0	584.0	577.0	49.8	52.3	44.8	51.6	52.7	31.4	--
Large cigars (mil)	3,226	3,090	2,757	220.2	223.9	196.3	224.4	260.4	181.7	--

1/ 1,000 short tons, raw value. Quarterly data shown at end of each quarter. 2/ Net imports of green and processed coffee. 3/ Crop year July-June for flue-cured, October-September for burley. 4/ Taxable removals. P = preliminary. -- = not available. NQ = no quote.

Information contacts: (sugar) Peter Buzzanell (202) 786-1888; (coffee) Fred Gray (202) 786-1888; (tobacco) Verner Grise (202) 786-1890.

Table 26.—World Supply &amp; Utilization of Major Crops, Livestock, &amp; Products

	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88 P	1988/89 F
	Million units						
<b>Wheat</b>							
Area (hectare)	237.3	228.8	231.0	229.3	227.6	219.7	219.2
Production (metric ton)	477.3	489.3	511.8	499.8	529.6	504.5	502.1
Exports (metric ton) 1/	98.7	102.0	107.0	85.0	90.7	104.7	92.9
Consumption (metric ton) 2/	460.1	474.1	492.9	495.9	522.6	535.4	534.0
Ending stocks (metric ton) 3/	130.0	145.2	163.9	167.8	174.9	144.0	112.1
<b>Coarse grains</b>							
Area (hectare)	338.7	334.6	334.2	340.8	336.5	322.6	323.1
Production (metric ton)	783.9	687.2	814.0	841.6	833.3	789.7	710.0
Exports (metric ton) 1/	90.0	93.4	100.4	83.2	83.9	81.3	89.2
Consumption (metric ton) 2/	753.3	758.3	780.8	777.3	809.3	813.0	803.1
Ending stocks (metric ton) 3/	181.4	110.8	143.9	208.3	232.3	209.0	115.9
<b>Rice, milled</b>							
Area (hectare)	140.6	144.2	144.4	144.9	145.1	142.7	145.7
Production (metric ton)	286.5	308.0	319.1	319.7	318.4	308.7	320.5
Exports (metric ton) 4/	11.9	12.6	11.5	12.8	12.7	11.3	12.3
Consumption (metric ton) 2/	286.5	304.6	310.6	320.8	322.6	316.6	322.0
Ending stocks (metric ton) 3/	43.3	46.7	54.9	54.1	50.0	42.1	40.5
<b>Total grains</b>							
Area (hectare)	716.6	707.6	709.6	715.0	709.2	685.0	688.0
Production (metric ton)	1,547.7	1,484.5	1,644.9	1,661.1	1,681.3	1,602.9	1,532.6
Exports (metric ton) 1/	200.6	208.0	218.9	181.0	187.3	197.3	194.4
Consumption (metric ton) 2/	1,499.9	1,537.0	1,584.3	1,594.0	1,654.5	1,665.0	1,659.1
Ending stocks (metric ton) 3/	354.7	302.7	362.7	430.2	457.2	395.1	268.5
<b>Oilseeds</b>							
Crush (metric ton)	143.5	135.8	150.6	154.8	161.2	165.1	166.5
Production (metric ton)	178.2	165.0	191.0	196.0	194.3	206.4	200.3
Exports (metric ton)	35.2	33.0	33.1	34.6	37.7	39.1	35.1
Ending stocks (metric ton)	20.5	15.7	21.1	26.8	23.3	23.5	17.3
<b>Meals</b>							
Production (metric ton)	98.1	92.5	101.8	104.8	110.0	112.7	112.6
Exports (metric ton)	31.6	29.7	32.3	34.4	36.7	35.4	36.2
<b>Oils</b>							
Production (metric ton)	43.4	42.1	46.2	49.4	50.5	52.5	53.6
Exports (metric ton)	14.0	13.7	15.6	16.4	17.0	17.3	17.6
<b>Cotton</b>							
Area (hectare)	31.4	31.0	33.9	31.9	29.9	32.3	34.4
Production (bale)	68.1	65.6	88.2	79.6	70.4	80.5	84.0
Exports (bale)	19.5	19.2	20.2	20.2	26.0	23.8	23.7
Consumption (bale)	68.3	68.3	70.0	75.8	82.5	82.2	82.7
Ending stocks (bale)	25.2	24.0	42.4	47.2	34.5	31.8	32.7
	1983	1984	1985	1986	1987	1988 F	1989 F
<b>Red meat</b>							
Production (mil metric tons)	97.5	99.6	103.5	106.4	108.6	109.7	109.8
Consumption (mil metric tons)	95.8	97.6	101.5	105.3	106.8	108.5	108.6
Exports (mil metric tons) 1/	5.9	5.9	6.2	6.6	6.6	6.6	6.8
<b>Poultry</b>							
Production (mil metric tons)	24.4	25.2	26.2	27.4	29.2	30.2	31.2
Consumption (mil metric tons)	24.3	24.8	26.0	27.0	28.8	29.9	30.8
Exports (mil metric tons) 1/	1.3	1.3	1.2	1.3	1.5	1.5	1.5
<b>Dairy</b>							
Milk production (mil metric tons)	413.0	413.5	419.1	427.2	427.1	428.2	432.1

1/ Excludes intra-EC trade. 2/ Where stocks data not available (excluding USSR), consumption includes stock changes. 3/ Stocks data are based on differing marketing years and do not represent levels at a given date. Data not available for all countries; includes estimated change in USSR grain stocks but not absolute level. 4/ Calendar year data. 1983 data correspond with 1982/83, etc. P = preliminary. F = forecast.

Information contacts: Frederic Surlis (202) 786-1824; (red meat & poultry) Linda Bailey (202) 786-1286; (dairy) Sara Short (202) 786-1769.

# U.S. Agricultural Trade

**Table 27.—Prices of Principal U.S. Agricultural Trade Products**

	Annual			1987	1988					
	1985	1986	1987	Sept	Apr	May	June	July	Aug	Sept
<b>Export commodities</b>										
Wheat, f.o.b. vessel, Gulf ports (\$/bu)	3.73	3.19	3.11	3.09	3.47	3.54	4.10	4.10	4.10	4.36
Corn, f.o.b. vessel, Gulf ports (\$/bu)	2.89	2.27	1.95	1.89	2.29	2.28	3.01	3.31	3.03	3.10
Grain sorghum, f.o.b. vessel, Gulf ports (\$/bu)	2.64	2.16	1.88	1.78	2.09	2.12	2.91	3.02	2.78	2.81
Soybeans, f.o.b. vessel, Gulf ports (\$/bu)	5.83	5.45	5.55	5.53	6.92	7.38	9.38	9.11	8.77	8.73
Soybean oil, Decatur (cts/lb)	27.03	16.36	15.85	15.26	21.49	23.39	27.51	29.31	26.74	25.06
Soybean meal, Decatur (\$/ton)	127.15	157.62	175.57	178.96	199.98	224.40	290.42	257.53	257.46	265.02
Cotton, 8-market avg. spot (cts/lb)	58.55	53.47	64.35	71.41	60.07	61.55	62.92	57.40	55.20	51.26
Tobacco, avg. price at auction (cts/lb)	171.55	153.96	144.34	152.15	141.22	141.22	141.22	141.22	144.21	156.52
Rice, f.o.b. mill, Houston (\$/cwt)	18.49	14.60	13.15	11.75	24.00	21.20	20.50	20.50	18.20	16.00
Inedible tallow, Chicago (cts/lb)	14.33	9.03	13.79	15.53	16.17	16.17	17.18	18.81	17.44	16.00
<b>Import commodities</b>										
Coffee, N.Y. spot (\$/lb)	1.42	2.01	1.09	.97	1.23	1.22	1.23	1.21	1.11	1.15
Rubber, N.Y. spot (cts/lb)	41.91	42.87	50.65	54.17	55.68	58.62	70.64	66.05	63.84	60.08
Cocoa beans, N.Y. (\$/lb)	.99	.88	.87	.87	.71	.74	.71	.71	.63	.54

Information contact: Mary Teymourian (202) 786-1820.

**Table 28.—Indexes of Real Trade-Weighted Dollar Exchange Rates**

	1987		1988									
	Nov	Dec	Jan	Feb	Mar	Apr	May P	June P	July P	Aug P	Sept P	Oct P
	1980=100											
<b>Total U.S. trade 2/</b>	101.8	98.6	99.4	101.6	100.3	99.4	100.3	103.4	108.1	110.2	109.9	111.7
<b>Agricultural trade</b>												
U.S. markets	106.0	103.8	103.6	104.2	103.0	101.6	101.8	102.9	105.2	105.9	105.6	106.0
U.S. competitors	129.7	127.4	126.3	126.7	126.4	125.1	125.5	126.4	129.1	131.7	132.7	136.2
<b>Wheat</b>												
U.S. markets	117.8	116.0	115.6	115.8	114.6	112.9	113.0	113.1	115.0	115.4	115.4	115.6
U.S. competitors	125.8	122.9	122.2	122.2	121.0	120.8	121.0	122.0	124.6	128.0	129.3	135.2
<b>Soybeans</b>												
U.S. markets	100.1	97.2	97.5	98.8	97.4	96.5	97.0	99.4	103.2	104.5	104.2	105.4
U.S. competitors	195.8	191.0	187.0	185.5	187.1	190.1	196.3	204.9	213.0	227.2	234.8	274.0
<b>Corn</b>												
U.S. markets	94.4	91.7	91.3	91.8	90.7	89.4	89.5	90.5	93.0	93.4	93.2	93.7
U.S. competitors	164.7	160.3	161.1	162.8	163.7	166.7	171.1	180.6	190.5	201.8	205.5	233.4
<b>Cotton</b>												
U.S. markets	102.6	99.8	99.7	100.0	98.5	97.7	97.7	98.7	101.1	101.7	101.9	102.5
U.S. competitors	102.7	110.8	109.8	108.9	109.0	103.1	103.4	101.3	100.3	99.2	97.6	96.3

1/ Real indexes adjust nominal exchange rates for differences in rates of inflation, to avoid the distortion caused by high-inflation countries. A higher value means the dollar has appreciated. See the October 1988 issue of Agricultural Outlook for a discussion of the calculations and the weights used. 2/ Federal Reserve Board Index of trade-weighted value of the U.S. dollar against 10 major currencies. Weights are based on relative importance in world financial markets.  
P = preliminary.

Information contact: Tim Baxter, David Stallings (202) 786-1706.

**Table 29.—Trade Balance**

	Fiscal year*									Aug
	1980	1981	1982	1983	1984	1985	1986	1987	1988 F	1988
	\$ million									
<b>Exports</b>										
Agricultural	40,481	43,780	39,097	34,769	38,027	31,201	26,309	27,859	34,000	2,876
Nonagricultural	169,846	185,423	176,308	159,373	170,014	179,236	176,628	202,331	--	22,721
Total 1/	210,327	229,203	215,405	194,142	208,041	210,437	202,937	230,190	--	25,597
<b>Imports</b>										
Agricultural	17,276	17,218	15,485	16,373	18,916	19,740	20,875	20,643	20,500	1,857
Nonagricultural	223,590	237,469	233,349	230,527	297,736	313,722	342,855	367,381	--	35,392
Total 2/	240,866	254,687	248,834	246,900	316,652	333,462	363,730	388,024	--	37,249
<b>Trade balance</b>										
Agricultural	23,205	26,562	23,612	18,396	19,111	11,461	5,434	7,216	13,500	1,019
Nonagricultural	-53,744	-52,046	-57,041	-71,154	-127,722	-134,486	-166,227	-165,050	--	-12,671
Total	-30,539	-25,484	-33,429	-52,758	-108,611	-123,025	-160,793	-157,834	--	-11,652

\*Fiscal years begin October 1 and end September 30. Fiscal year 1987 began Oct. 1, 1986 and ended Sept. 30, 1987.  
1/ Domestic exports including Department of Defense shipments (F.A.S. value). 2/ Imports for consumption (customs value).  
F = forecast. -- = not available.

Information contact: Steve MacDonald (202) 786-1822.



Table 30.—U.S. Agricultural Exports &amp; Imports

	Fiscal year*				Aug	Fiscal year*				Aug
	1985	1986	1987	1988 F	1988	1985	1986	1987	1988 F	1988
	Thousand units					\$ million				
EXPORTS										
Animals, live (no) 1/	996	570	275	--	186	255	344	331	--	69
Meats & preps., excl. poultry (mt)	427	451	548	2/500	69	906	1,012	1,300	--	198
Dairy products (mt)	423	480	445	--	39	414	431	490	500	60
Poultry meats (mt)	234	265	376	400	35	257	282	406	--	43
Fats, oils, & greases (mt)	1,217	1,355	1,220	3/1,300	103	608	477	417	--	45
Hides & skins incl. furskins	--	--	--	--	--	1,325	1,440	1,666	--	146
Cattle hides, whole (no) 1/	25,456	25,596	24,337	--	2,145	1,019	1,131	1,254	--	126
Mink pelts (no) 1/	2,237	2,697	2,760	--	102	60	65	103	--	3
Grains & feeds (mt)	93,903	74,358	90,213	--	8,328	13,285	9,472	9,059	4/12,200	1,205
Wheat (mt)	28,523	25,501	28,204	40,000	2,923	4,264	3,260	2,877	5/4,500	407
Wheat flour (mt)	718	1,094	1,305	1,100	120	164	203	207	--	27
Rice (mt)	1,972	2,382	2,454	2,200	115	677	648	551	700	43
Feed grains, incl. products (mt)	55,362	36,236	47,605	52,400	4,254	6,884	3,817	3,752	5,000	554
Feeds & fodders (mt)	6,533	8,392	10,113	6/11,000	856	1,004	1,286	1,455	--	145
Other grain products (mt)	795	1,015	750	--	78	293	332	284	--	35
Fruits, nuts, and preps. (mt)	1,907	2,003	2,141	--	170	1,687	1,766	2,049	--	191
Fruit juices incl. froz. (hl) 1/	4,641	3,652	4,362	--	607	200	148	185	--	27
Vegetables & preps. (mt)	1,420	1,442	1,625	--	122	946	997	1,174	--	93
Tobacco, unmanufactured (mt)	257	224	224	200	11	1,588	1,318	1,204	1,200	70
Cotton, excl. linters (mt)	1,277	482	1,306	1,500	58	1,945	678	1,419	2,200	88
Seeds (mt)	289	269	305	--	19	352	367	371	400	25
Sugar, cane or beet (mt)	355	375	582	--	28	65	75	113	--	12
Oilseeds & products (mt)	23,803	27,583	29,653	--	1,357	6,195	6,271	6,293	7,600	469
Oilseeds (mt)	17,886	20,684	21,833	21,000	997	4,324	4,394	4,408	--	338
Soybeans (mt)	16,621	20,139	21,322	20,700	975	3,876	4,174	4,191	4,800	323
Protein meal (mt)	4,606	5,614	6,786	6,000	291	853	1,132	1,347	1,400	80
Vegetable oils (mt)	1,311	1,284	1,035	--	69	1,018	746	538	--	51
Essential oils (mt)	12	7	8	--	7/	105	105	111	--	8
Other	443	568	564	--	34	1,069	1,126	1,271	--	127
Total	125,967	109,862	129,210	146,000	10,373	31,201	26,309	27,859	34,000	2,876
IMPORTS										
Animals, live (no) 1/	2,120	1,885	1,994	--	137	569	637	610	700	46
Meats & preps., excl. poultry (mt)	1,123	1,139	1,282	--	114	2,214	2,248	2,797	--	243
Beef & veal (mt)	674	693	778	790	75	1,295	1,252	1,575	1,700	160
Pork (mt)	416	406	462	475	37	847	900	1,125	1,000	75
Dairy products (mt)	418	400	461	410	30	763	786	849	900	84
Poultry and products 1/	--	--	--	--	--	93	101	112	--	8
Fats, oils, & greases (mt)	21	22	21	--	2	18	17	18	--	2
Hides & skins, incl. furskins 1/	--	--	--	--	--	240	200	304	--	18
Wool, unmanufactured (mt)	43	53	59	--	3	145	160	197	--	16
Grains & feeds (mt)	2,070	2,311	2,336	2,800	290	604	668	727	800	84
Fruits, nuts, & preps., excl. juices (mt)	4,483	4,637	4,835	4,645	342	1,891	1,976	2,178	--	160
Bananas & plantains (mt)	3,022	3,042	3,106	3,020	254	752	740	817	800	70
Fruit juices (hl) 1/	35,112	31,539	33,888	28,500	2,664	995	698	728	--	84
Vegetables & preps. (mt)	2,140	2,199	2,446	2,500	147	1,347	1,560	1,509	1,600	106
Tobacco, unmanufactured (mt)	191	208	224	210	19	556	606	634	600	58
Cotton, unmanufactured (mt)	31	41	38	--	5	17	14	7	--	1
Seeds (mt)	92	89	133	120	7	91	111	156	100	12
Nursery stock & cut flowers 1/	--	--	--	--	--	318	353	369	--	40
Sugar, cane or beet (mt)	2,338	1,905	1,492	1,070	144	912	654	497	--	48
Oilseeds & products (mt)	1,271	1,508	1,572	1,650	208	784	639	579	700	98
Oilseeds (mt)	253	197	165	--	15	98	69	56	--	6
Protein meal (mt)	159	138	245	--	33	17	15	30	--	6
Vegetable oils (mt)	859	1,173	1,162	--	160	670	555	493	--	86
Beverages excl. fruit juices (hl) 1/	15,494	15,488	15,549	--	1,525	1,622	1,848	1,923	--	173
Coffee, tea, cocoa, spices (mt)	1,868	1,940	1,915	--	165	4,983	6,099	4,867	--	380
Coffee, incl. products (mt)	1,128	1,223	1,207	1,060	100	3,244	4,400	3,232	2,600	252
Cocoa beans & products (mt)	539	507	503	550	48	1,285	1,189	1,088	1,100	90
Rubber & allied gums (mt)	799	801	824	850	85	680	615	714	850	108
Other	--	--	--	--	--	900	885	868	--	88
Total	--	--	--	--	--	19,740	20,875	20,643	20,500	1,857

\*Fiscal years begin October 1 and end September 30. Fiscal year 1987 began Oct. 1, 1986 and ended Sept 30, 1987. 1/ Not included in total volume. 2/ Forecasts for footnoted items 2/-6/ are based on slightly different groups of commodities. Fiscal 1987 exports of categories used in the 1988 forecasts were 2/ 503,000 mt. 3/ 1.204 million mt. 4/ 9,302 million. 5/ 3,086 million, i.e. includes flour. 6/ 10,003 million mt. 7/ Less than 500 tons. F = forecast. -- = not available.

Information contact: Steve MacDonald (202) 786-1822.

Table 31.—U.S. Agricultural Exports by Region

Region & country	Fiscal year*				Aug	Change from year* earlier				Aug
	1985	1986	1987	1988 F	1988	1985	1986	1987	1988 F	1988
	\$ million					Percent				
Western Europe	7,183	6,848	7,203	7,800	433	-22	-5	5	8	9
European Community (EC-12)	6,668	6,432	6,771	7,300	392	-23	-4	5	4	5
Belgium-Luxembourg	470	361	423	--	0	-44	-23	17	--	-100
France	396	431	494	--	0	-22	9	15	--	-100
Germany, Fed. Rep.	900	1,001	1,266	--	70	-29	11	26	--	-1
Italy	677	693	733	--	0	-12	2	6	--	-100
Netherlands	1,926	2,042	1,950	--	101	-14	6	-5	--	12
United Kingdom	628	628	662	--	60	-20	0	5	--	36
Portugal	502	308	268	--	20	-28	-39	-13	--	-23
Spain, incl. Canary Islands	832	723	654	--	26	-32	-13	-10	--	-24
Other Western Europe	515	415	432	500	41	-16	-19	4	25	52
Switzerland	232	128	145	--	0	-26	-45	13	--	-100
Eastern Europe	532	447	453	600	27	-28	-16	1	20	-108
German Dem. Rep.	81	52	66	--	19	-39	-36	27	--	1,800
Poland	126	42	63	--	0	-36	-66	50	--	-100
Yugoslavia	137	134	131	--	1	-24	-2	-2	--	-68
Romania	88	112	115	--	1	-43	27	3	--	-86
USSR	2,525	1,105	659	1,800	85	1	-56	-40	143	-7
Asia	11,933	10,494	11,989	15,500	1,439	-22	-12	14	29	42
West Asia (Mideast)	1,452	1,243	1,663	2,000	161	-22	-14	34	18	1
Turkey	129	111	117	--	1	-42	-13	5	--	-89
Iraq	371	335	524	700	64	-12	-10	56	40	3
Israel	300	255	244	--	29	-15	-15	-4	--	38
Saudia Arabia	381	335	489	500	44	-23	-12	46	0	19
South Asia	599	517	345	--	118	-31	-14	-33	--	119
Bangladesh	205	94	111	--	7	31	-54	18	--	-50
India	129	90	93	--	67	-66	-30	3	--	748
Pakistan	228	285	98	400	30	-20	25	-66	300	-6
China	239	83	235	500	54	-65	-65	183	150	286
Japan	5,663	5,139	5,553	6,900	674	-18	-9	8	18	65
Southeast Asia	842	724	707	--	68	-31	-14	-2	--	-1
Indonesia	204	172	152	--	13	-53	-16	-12	--	0
Philippines	285	269	259	400	27	-5	-6	-4	33	7
Other East Asia	3,138	2,788	3,485	4,400	364	-14	-11	25	26	17
Taiwan	1,342	1,109	1,354	1,600	126	-5	-17	22	14	2
Korea, Rep.	1,400	1,277	1,693	2,200	198	-23	-9	33	29	34
Hong Kong	396	400	436	500	40	-3	1	9	25	3
Africa	2,527	2,134	1,784	2,100	161	-12	-16	-16	17	25
North Africa	1,207	1,401	1,279	1,500	108	-22	16	-9	15	46
Morocco	156	159	196	--	12	-54	2	23	--	-40
Algeria	220	329	244	600	48	36	50	-26	200	100
Egypt	766	875	761	700	46	-13	14	-13	-13	77
Sub-Saharan	1,320	733	505	600	53	-1	-44	-31	20	-4
Nigeria	367	158	67	--	3	6	-57	-58	--	50
Rep. S. Africa	189	70	49	--	9	-64	-63	-30	--	125
Latin America & Caribbean	4,570	3,598	3,765	4,000	516	-13	-21	5	5	57
Brazil	557	445	418	300	4	27	-20	-6	-25	-71
Caribbean Islands	771	752	829	--	90	-7	-2	10	--	45
Central America	361	334	377	--	38	-9	-7	13	--	0
Colombia	238	137	115	--	20	8	-42	-16	--	-5
Mexico	1,566	1,114	1,215	1,300	261	-20	-29	9	8	109
Peru	106	108	140	--	15	-53	2	30	--	114
Venezuela	721	493	459	600	57	-7	-32	-7	20	54
Canada	1,727	1,466	1,776	2,000	196	-11	-15	21	11	56
Oceania	204	216	230	200	20	-6	6	6	0	-41
Total	31,201	26,309	27,859	34,000	2,876	-18	-16	6	22	35
Developed countries	15,225	13,954	15,014	17,200	1,357	-21	-8	8	11	37
Less developed countries	12,680	10,719	11,499	13,900	1,354	-15	-15	7	21	32
Centrally planned countries	3,296	1,636	1,347	2,900	165	-16	-50	-18	123	40

\*Fiscal years begin October 1 and end September 30. Fiscal year 1988 began Oct. 1, 1987 and ended Sept. 30, 1988.  
 F = forecast. -- = not available.  
 Note: Adjusted for transshipments through Canada.

Information contact: Steve MacDonald (202) 786-1822.

# Farm Income

**Table 32.—Farm Income Statistics**

	Calendar year										
	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988 F
	\$ billion										
1. Farm receipts	114.3	133.8	142.0	144.1	147.1	141.1	146.8	149.1	140.2	143.7	148 to 153
Crops (incl. net CCC loans)	53.2	62.3	71.7	72.5	72.3	67.1	69.5	74.2	63.6	61.9	66 to 68
Livestock	59.2	69.2	68.0	69.2	70.3	69.4	73.0	69.8	71.5	76.2	77 to 79
Farm related 1/	1.9	2.2	2.3	2.5	4.5	4.5	4.4	5.0	5.1	5.6	5 to 7
2. Direct Government payments	3.0	1.4	1.3	1.9	3.5	9.3	8.4	7.7	11.8	16.7	14 to 16
Cash payments	3.0	1.4	1.3	1.9	3.5	4.1	4.0	7.6	8.1	6.5	6 to 8
Value of PIR commodities	0.0	0.0	0.0	0.0	0.0	5.2	4.5	0.1	3.7	10.2	7 to 9
3. Total gross farm income (4+5+6) 2/	128.5	150.7	149.3	166.4	163.5	153.1	174.9	166.2	159.8	169.8	165 to 170
4. Gross cash income (1+2)	117.3	135.1	143.3	146.0	150.6	150.4	155.2	156.8	152.0	160.4	163 to 168
5. Nonmoney income 3/	9.3	10.6	12.3	13.8	14.3	13.5	13.4	11.8	10.6	10.0	8 to 10
6. Value of inventory change	1.9	5.0	-6.3	6.5	-1.4	-10.9	6.3	-2.4	-2.8	-1.6	-6 to -8
7. Cash expenses 4/	84.2	101.7	109.1	113.2	112.8	113.5	116.6	110.2	100.6	103.3	106 to 111
8. Total expenses	103.2	123.3	133.1	139.4	140.0	140.4	142.7	134.0	122.3	123.5	126 to 132
9. Net cash income (4-7)	33.1	33.4	34.2	32.8	37.8	36.9	38.7	46.6	51.4	57.1	55 to 60
10. Net farm income (3-8)	25.2	27.4	16.1	26.9	23.5	12.7	32.2	32.3	37.5	46.3	38 to 43
Deflated (1982\$)	34.9	34.9	18.8	28.6	23.5	12.2	29.7	29.1	32.9	39.3	30 to 35
11. Off-farm income	29.7	33.8	34.7	35.8	36.4	37.0	38.9	42.6	44.6	46.8	48 to 50
12. Loan charges 5/:											
Real estate	8.3	13.0	9.9	9.1	3.8	2.3	-1.1	-6.0	-9.2	-7.7	-2 to -4
Nonreal estate	8.3	11.2	5.3	6.5	3.4	0.9	-0.8	-9.6	-10.7	-4.9	0 to 1
14. Rental income plus monetary change	4.1	6.3	6.1	6.4	6.3	5.3	8.9	8.8	7.8	6.8	7 to 9
15. Capital expenditures 5/	17.9	20.1	18.0	16.8	13.3	12.7	12.5	9.6	8.5	9.8	9 to 11
16. Net cash flow (9+12+13+14-15)	35.8	43.8	37.6	37.8	38.1	32.7	33.1	30.2	30.8	41.4	50 to 55

1/ Income from machine hire, custom work, sales of forest products, and other miscellaneous cash sources. 2/ Numbers in parentheses indicate the combination of items required to calculate a given item. 3/ Value of home consumption of self-produced food and imputed gross rental value of farm dwellings. 4/ Excludes capital consumption, perquisites to hired labor, and farm household expenses. 5/ Excludes farm households. Totals may not add because of rounding. F = forecast.

Information contact: Andy Bernat (202) 786-1808.

**Table 33.—Balance Sheet of the U.S. Farming Sector**

	Calendar year 1/										
	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988 F
	\$ billion										
Assets											
Real estate	601.9	706.2	782.9	784.7	748.8	739.6	639.6	558.6	510.1	522.6	534 to 544
Nonreal estate	175.3	201.6	213.2	212.0	212.4	205.7	208.9	190.4	181.5	186.3	182 to 188
Livestock & poultry	51.3	61.4	60.6	53.5	53.0	49.7	49.6	46.3	47.6	57.6	59 to 63
Machinery & motor vehicles	75.5	85.8	93.1	101.4	102.0	100.8	96.9	87.6	80.3	73.9	72 to 76
Crops stored 2/	25.3	29.2	33.0	29.1	27.9	23.9	29.6	23.5	19.1	20.5	14 to 18
Financial assets	23.1	25.3	26.5	28.0	29.5	31.3	32.8	33.0	34.4	34.3	33 to 35
Total farm assets	777.2	907.8	996.1	996.7	961.2	945.3	848.5	749.0	691.6	708.9	720 to 730
Liabilities											
Real estate 3/	66.7	79.7	89.6	98.7	102.5	104.8	103.7	97.7	88.5	80.8	76 to 80
Nonreal estate 4/	60.7	71.8	77.1	83.6	87.0	87.9	87.1	77.5	66.8	61.9	60 to 64
Total farm liability.	127.4	151.6	166.8	182.3	189.5	192.7	190.8	175.2	155.3	142.7	136 to 144
Total farm equity	649.7	756.2	829.3	814.4	771.7	752.6	657.7	573.8	536.3	566.3	580 to 590
	Percent										
Selected ratios											
Debt-to-assets	16.4	16.7	16.7	18.3	19.7	20.4	22.5	23.4	22.5	20.1	18 to 20
Debt-to-equity	19.6	20.0	20.1	22.4	24.6	25.6	29.0	30.5	29.0	25.2	23 to 25
Debt-to-net cash income 385	454	454	488	556	497	523	493	376	302	250	237 to 247

1/ As of December 31. 2/ Non-CCC crops held on farms plus value above loan rates for crops held under CCC. 3/ Excludes debt on operator dwellings, but includes CCC storage and drying facilities loans. 4/ Excludes debt for nonfarm purposes. F = forecast.

Information contact: Ken Erickson or Jim Ryan (202) 786-1798.

Table 34.—Cash Receipts from Farm Marketings, by State

Region & State	Livestock & Products				Crops 1/				Total 1/			
	1986	1987	July 1988	Aug 1988	1986	1987	July 1988	Aug 1988	1986	1987	July 1988	Aug 1988
	\$ million 2/											
North Atlantic												
Maine	247	243	21	21	139	170	9	13	386	413	30	34
New Hampshire	72	66	5	5	38	38	2	3	110	104	7	8
Vermont	361	377	27	30	36	35	4	1	397	412	32	31
Massachusetts	130	124	10	10	286	268	16	23	416	393	26	33
Rhode Island	12	12	1	1	63	63	3	2	76	75	4	3
Connecticut	209	196	17	17	166	170	12	11	374	366	30	29
New York	1,808	1,800	140	146	782	726	56	97	2,590	2,527	196	243
New Jersey	150	140	12	12	432	423	67	57	582	563	78	69
Pennsylvania	2,242	2,319	178	196	903	905	71	77	3,145	3,224	249	273
North Central												
Ohio	1,586	1,614	117	130	2,003	1,808	212	133	3,589	3,422	329	264
Indiana	1,860	1,856	137	139	2,201	2,016	202	152	4,061	3,872	339	290
Illinois	2,155	2,262	169	178	4,612	3,913	312	290	6,766	6,174	480	468
Michigan	1,241	1,285	101	108	1,327	1,219	160	105	2,567	2,504	261	213
Wisconsin	4,022	4,222	337	340	845	795	82	110	4,867	5,017	419	450
Minnesota	3,408	3,645	279	305	2,622	2,165	295	294	6,030	5,809	574	599
Iowa	4,981	5,270	355	369	4,003	3,510	416	400	8,984	8,780	772	769
Missouri	1,968	2,173	144	159	1,537	1,517	139	105	3,505	3,691	283	264
North Dakota	671	760	37	46	1,639	1,548	158	108	2,310	2,308	195	154
South Dakota	1,487	1,910	88	126	889	813	63	69	2,375	2,723	151	195
Nebraska	4,251	4,848	366	443	2,562	1,975	171	162	6,813	6,823	537	605
Kansas	3,466	3,914	307	355	1,866	1,807	294	159	5,333	5,722	601	514
Southern												
Delaware	402	370	35	42	119	114	8	18	520	485	44	59
Maryland	811	734	63	72	374	394	46	24	1,185	1,128	110	95
Virginia	1,151	1,244	106	138	479	448	44	49	1,629	1,692	149	188
West Virginia	156	169	12	14	59	52	3	6	215	221	15	20
North Carolina	2,171	2,081	184	180	1,586	1,634	60	325	3,757	3,715	244	505
South Carolina	456	461	33	37	442	470	40	78	898	931	73	116
Georgia	1,884	1,826	188	185	1,312	1,261	56	120	3,195	3,087	244	305
Florida	1,018	1,102	104	103	3,696	4,125	185	163	4,714	5,227	290	267
Kentucky	1,362	1,506	297	85	1,040	913	47	26	2,402	2,419	344	111
Tennessee	1,041	1,107	102	125	813	826	43	44	1,854	1,933	145	170
Alabama	1,425	1,560	165	179	595	588	35	21	2,020	2,148	200	200
Mississippi	1,048	1,040	111	106	749	939	19	22	1,796	1,979	130	128
Arkansas	2,017	2,116	225	230	988	1,027	66	26	3,005	3,143	291	256
Louisiana	515	521	57	61	837	899	39	71	1,352	1,420	95	133
Oklahoma	1,874	2,052	191	211	708	700	120	61	2,582	2,752	311	272
Texas	5,517	6,059	638	735	3,186	3,027	253	318	8,704	9,086	891	1,054
Western												
Montana	652	760	22	27	469	587	35	34	1,121	1,347	57	60
Idaho	884	926	72	77	1,052	1,120	62	117	1,936	2,047	134	195
Wyoming	451	528	16	21	116	114	8	19	566	642	25	40
Colorado	2,218	2,321	177	211	888	870	100	98	3,106	3,191	277	308
New Mexico	712	817	58	62	304	331	39	39	1,016	1,147	97	101
Arizona	696	774	73	49	918	1,007	53	27	1,614	1,781	125	76
Utah	442	462	40	42	134	134	15	12	576	596	54	54
Nevada	159	167	11	16	79	76	9	11	238	243	20	27
Washington	980	982	89	90	1,828	1,860	135	259	2,807	2,841	224	349
Oregon	654	655	53	66	1,124	1,206	134	156	1,778	1,861	187	221
California	4,435	4,741	445	408	10,209	10,781	805	819	14,645	15,522	1,251	1,227
Alaska	10	11	1	1	18	19	2	2	28	29	3	3
Hawaii	84	88	7	7	481	471	41	41	565	559	48	49
United States	71,548	76,218	6,422	6,717	63,554	61,876	5,246	5,380	135,102	138,094	11,668	12,096

1/ Sales of farm products include receipts from commodities placed under CCC loans minus value of redemptions during the period. 2/ Estimates as of the end of current month. Totals may not add because of rounding.

Information contact: Roger Strickland (202) 786-1804.



Table 35.—Cash Receipts from Farming

	Annual						1987	1988				
	1982	1983	1984	1985	1986	1987	Aug	Apr	May	June	July	Aug
	\$ million											
Farm marketings & CCC loans *	142,594	136,567	142,436	144,015	135,102	138,094	10,287	11,245	10,646	11,480	11,668	12,096
Livestock & products	70,257	69,438	72,966	69,842	71,548	76,218	6,437	6,614	6,378	6,072	6,422	6,717
Meat animals	40,917	38,893	40,832	38,589	39,122	44,716	3,811	4,178	3,797	3,439	3,420	3,959
Dairy products	18,234	18,763	17,944	18,063	17,753	17,829	1,462	1,429	1,481	1,393	1,426	1,413
Poultry & eggs	9,520	9,981	12,223	11,211	12,678	11,487	1,010	855	942	1,065	1,190	1,184
Other	1,586	1,801	1,967	1,979	1,994	2,187	154	153	158	174	386	161
Crops	72,338	67,129	69,469	74,173	63,554	61,876	3,849	4,631	4,268	5,409	5,246	5,380
Food grains	11,412	9,713	9,740	8,993	5,631	5,411	557	237	431	1,403	1,179	683
Feed crops	17,409	15,535	15,668	22,520	16,982	13,061	552	773	740	1,327	1,291	1,369
Cotton (lint & seed)	4,457	3,705	3,674	3,687	3,551	4,027	179	168	120	64	33	178
Tobacco	3,342	2,752	2,813	2,722	1,918	1,827	296	23	0	0	10	434
Oil-bearing crops	13,817	13,546	13,641	12,474	10,592	10,800	319	803	742	763	734	660
Vegetables & melons	8,063	8,459	9,138	8,558	8,630	9,223	820	856	970	821	654	909
Fruits & tree nuts	6,846	6,056	6,737	6,843	7,288	7,869	594	699	452	499	762	602
Other	6,993	7,365	8,060	8,378	8,962	9,658	532	1,073	814	532	563	544
Government payments	3,492	9,295	8,430	7,704	11,813	16,747	487	1,519	1,628	1,286	241	39
Total	146,086	145,862	150,866	151,719	146,915	154,841	10,774	12,764	12,274	12,766	11,909	12,135

\* Receipts from loans represent value of commodities placed under CCC loans minus value of redemptions during the month.

Information contact: Roger Strickland (202) 786-1804.

Table 36.—Farm Production Expenses

	Calendar year									
	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988 F
	\$ million									
Feed	19,314	20,971	20,855	18,592	21,725	19,852	18,015	16,179	16,093	18,000 to 22,000
Livestock	13,012	10,670	8,999	9,684	8,814	9,498	8,958	9,744	12,014	12,000 to 14,000
Seed	2,904	3,220	3,428	3,172	2,993	3,448	3,350	2,984	3,009	2,500 to 3,500
Farm-origin inputs	35,230	34,861	33,282	31,448	33,532	32,798	30,323	28,907	31,116	33,000 to 37,000
Fertilizer	7,369	9,491	9,409	8,018	7,067	7,429	7,259	5,787	5,392	5,500 to 6,500
Fuels & oils	5,635	7,879	8,570	7,888	7,503	7,143	6,584	4,790	4,442	4,200 to 5,200
Electricity	1,447	1,526	1,747	2,041	2,146	2,166	2,150	1,942	2,393	2,000 to 3,000
Pesticides	3,436	3,539	4,201	4,282	4,154	4,767	4,994	4,485	4,588	4,000 to 5,000
Manufactured inputs	17,887	22,435	23,927	22,229	20,870	21,505	20,987	17,004	16,815	16,000 to 19,000
Short-term interest	6,868	8,717	10,722	11,349	10,615	10,396	8,821	7,795	7,305	5,500 to 7,500
Real estate interest 1/	6,190	7,544	9,142	10,481	10,815	10,733	9,878	9,131	8,202	8,000 to 9,000
Total interest charges	13,058	16,261	19,864	21,830	21,430	21,129	18,699	16,926	15,508	13,500 to 15,500
Repair & maintenance 1/ 2/	6,754	7,075	7,021	6,428	6,529	6,416	6,370	6,426	6,546	6,500 to 7,500
Contract & hired labor	8,981	9,293	8,931	10,075	9,725	9,729	9,799	9,879	10,747	10,000 to 12,000
Machine hire & custom work	2,063	1,823	1,984	2,025	1,896	2,170	2,184	1,810	1,956	1,500 to 2,500
Marketing, storage, & transportation	3,162	3,070	3,523	4,301	3,904	4,012	4,127	3,652	3,823	3,500 to 5,000
Misc. operating expenses 1/	6,771	6,881	6,909	7,262	9,089	9,106	8,232	7,993	8,311	7,000 to 8,000
Other operating expenses	27,732	28,142	28,368	30,089	31,143	31,433	30,712	29,760	31,383	29,000 to 34,000
Capital consumption 1/	19,345	21,474	23,573	24,287	23,873	23,105	20,847	18,916	17,348	17,000 to 18,000
Taxes 1/	3,871	3,891	4,246	4,036	4,469	4,059	4,231	4,125	4,345	3,700 to 4,700
Net rent to nonoperator landlord	6,182	6,075	6,184	6,059	5,060	8,640	8,158	6,698	6,987	7,300 to 8,300
Other overhead expenses	29,398	31,440	34,003	34,381	33,402	35,805	33,236	29,739	28,680	28,000 to 31,000
Total production expenses	123,304	133,139	139,444	139,980	140,377	142,669	133,957	122,335	123,502	126,000 to 132,000

1/ Includes operator dwellings. 2/ Beginning in 1982, miscellaneous operating expenses includes other livestock purchases and dairy assessments. Totals may not add because of rounding. F = forecast.

Information contacts: Chris McGath (202) 786-1804; Andy Bernat (202) 786-1808.

Table 37.—CCC Net Outlays by Commodity & Function

	Fiscal year										
	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988 E	1989 E
	\$ million										
COMMODITY/PROGRAM											
Feed grains	1,144	1,286	-533	5,397	6,815	-758	5,211	12,211	13,967	8,200	2,725
Wheat	308	879	1,543	2,238	3,419	2,536	4,691	3,440	2,836	557	695
Rice	49	-76	24	164	664	333	990	947	906	125	1,002
Upland cotton	141	64	336	1,190	1,363	244	1,553	2,142	1,786	757	2,609
Tobacco	157	-88	-51	103	880	346	455	253	-346	-399	-326
Dairy	24	1,011	1,894	2,182	2,528	1,502	2,085	2,337	1,166	1,183	682
Soybeans	4	116	87	169	288	-585	711	1,597	-476	-1,449	-176
Peanuts	27	28	28	12	-6	1	12	32	8	7	1
Sugar	313	-405	-121	-5	49	10	184	214	-65	-15	0
Honey	-2	9	8	27	48	90	81	89	73	82	71
Wool	39	35	42	54	94	132	109	123	152	137	85
Operating expense	97	157	159	294	328	362	346	457	535	568	583
Interest expenditure	238	518	220	-13	3,525	1,064	1,435	1,411	1,219	444	694
Export programs	417	-669	-940	65	398	743	134	102	276	281	197
Other	656	-113	1,340	-225	-1,542	1,295	-314	486	371	2,631	2,287
Total	3,612	2,752	4,036	11,652	18,851	7,315	17,683	25,841	22,408	13,109	11,129
FUNCTION											
Price-support loans (net)	2	-66	174	7,015	8,438	-27	6,272	13,628	12,199	4,435	949
Direct payments											
Deficiency	1,024	79	0	1,185	2,780	612	6,302	6,166	4,833	3,857	4,833
Diversion	419	56	0	0	705	1,504	1,525	64	382	10	0
Disaster	367	258	1,030	306	115	1	0	0	0	0	0
Dairy termination	0	0	0	0	0	0	0	489	587	270	189
Other	1	25	0	0	0	0	0	27	60	0	44
Total direct payments	1,811	418	1,030	1,491	3,600	2,117	7,827	6,746	5,862	4,137	5,066
Purchases (net)	10	1,681	1,602	2,031	2,540	1,470	1,331	1,670	-479	-1,061	193
Producer storage payments	247	254	32	679	964	268	329	485	832	498	341
Processing, storage, & transportation	128	259	323	355	665	639	657	1,013	1,659	991	697
Operating expense	97	157	159	294	328	362	346	457	535	568	583
Interest expenditure	238	518	220	-13	3,525	1,064	1,435	1,411	1,219	444	694
Export programs	417	-669	-940	65	398	743	134	102	276	281	197
Other	662	200	1,436	-265	-1,607	679	-648	329	305	2,816	2,409
Total	3,612	2,752	4,036	11,652	18,851	7,315	17,683	25,841	22,408	13,109	11,129

E = estimated in the fiscal 1989 Mid-Session Review. Fiscal 1989 estimated outlays do not incorporate the impact of pending drought legislation. Minus (-) indicates a net receipt (excess of repayments or other receipts over gross outlays of funds).

Information contact: Richard Pazdalski (202) 447-5148.

Transportation

Table 38.—Rail Rates; Grain & Fruit/Vegetable Shipments

	Annual			1987	1988						
	1985	1986	1987		Sept	Apr	May	June	July	Aug	Sept
Rail freight rate index 1/ (Dec 1984=100)											
All products	100.0	100.7	100.1	100.1	105.2	105.2	104.8 P	105.2 P	105.0 P	105.3 P	105.3 P
Farm products	99.0	99.6	99.3	99.5	104.4	104.4	103.6 P	103.3 P	103.5 P	107.5 P	107.5 P
Grain	98.3	98.9	98.7	98.9	102.7	104.1	103.1 P	102.8 P	103.0 P	107.8 P	107.8 P
Food products	100.1	99.9	98.6	98.6	103.8	103.9	103.7 P	103.7 P	103.7 P	103.7 P	103.7 P
Grain shipments											
Rail carloadings (thou cars) 2/	22.9	24.4	29.1	33.0	33.0 P	31.9 P	31.9 P	29.7 P	27.1 P	28.9 P	28.9 P
Fresh fruit & vegetable shipments											
Piggy back (thou cwt) 3/ 4/	602	629	585	530	539 P	768 P	789 P	662 P	509 P	489 P	489 P
Rail (thou cwt) 3/ 4/	532	563	655	627	533 P	715 P	782 P	481 P	154 P	566 P	566 P
Truck (thou cwt) 3/ 4/	8,298	9,031	9,231	8,588	10,506 P	11,554 P	11,494 P	9,231 P	8,649 P	8,369 P	8,369 P
Cost of operating trucks											
hauling produce 5/											
Owner operator (cts/mile)	116.1	113.1	116.3	117.1	118.9	118.5	118.5	118.2	118.6	118.5	118.5
Fleet operation (cts/mile)	116.7	113.6	116.5	117.0	118.4	118.3	118.0	118.2	118.2	118.6	118.6

1/ Department of Labor, Bureau of Labor Statistics. 2/ Weekly average; from Association of American Railroads. 3/ Weekly average; from Agricultural Marketing Service, USDA. 4/ Preliminary data for 1987 and 1988. 5/ Office of Transportation, USDA. P = preliminary.

Information contact: T.Q. Hutchinson (202) 786-1840.

## Indicators of Farm Productivity

Table 39.—Indexes of Farm Production Input Use & Productivity

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987 2/
1977=100										
Farm output	104	111	104	118	116	96	112	118	111	109
All livestock products 3/	101	104	108	109	107	109	107	110	110	111
Meat animals	100	103	107	106	101	104	101	102	100	98
Dairy products	99	101	105	108	110	114	110	117	117	116
Poultry & eggs	106	114	115	119	119	120	123	128	133	143
All crops 4/	102	113	101	117	117	88	111	118	109	106
Feed grains	108	116	97	121	122	67	116	134	123	105
Hay & forage	106	108	98	106	109	100	107	106	106	103
Food grains	93	108	121	144	138	117	129	121	107	106
Sugar crops	101	94	97	107	96	93	95	97	106	112
Cotton	76	102	79	109	85	55	91	94	69	104
Tobacco	106	80	93	108	104	75	90	81	63	64
Oil crops	105	129	99	114	121	91	106	117	110	106
Cropland used for crops	97	100	101	102	101	88	99	98	94	87
Crop production per acre	105	113	100	115	116	100	112	120	116	122
Farm input 5/	102	105	103	102	99	97	95	92	87	--
Farm real estate	100	103	103	104	102	101	97	95	93	--
Mechanical power & machinery	104	104	101	98	92	89	85	81	76	--
Agricultural chemicals	107	123	123	129	118	105	121	121	109	--
Feed, seed & livestock purchases	108	115	114	108	107	109	105	105	102	--
Farm output per unit of input	101	105	101	116	118	99	118	128	127	--
Output per hour of labor										
Farm 6/	104	113	109	123	125	99	121	139	139	140
Nonfarm 7/	101	99	99	100	99	102	105	106	108	108

1/ For historical data and indexes, see Economic Indicators of the Farm Sector: Production and Efficiency Statistics, 1985, ECIFS 5-5. 2/ Preliminary indexes for 1987 based on January 1988 Crop Production: 1987 Summary report and other releases of the Agricultural Statistics Board, NASS. 3/ Gross livestock production includes minor livestock products not included in the separate groups shown. It cannot be added to gross crop production to compute farm output. 4/ Gross crop production includes some miscellaneous crops not in the separate groups shown. It cannot be added to gross livestock production to compute farm output. 5/ Includes other items not included in the separate groups shown. 6/ Economic Research Service. 7/ Bureau of Labor Statistics. -- = not available.

Information contact: Jim Hauver (202) 786-1459.

Table 40.—Per Capita Consumption of Major Food Commodities (Retail Weight)

	1979	1980	1981	1982	1983	1984	1985	1986	1987 2/
	Pounds								
Meats 3/	144.7	147.4	145.0	138.4	143.2	142.8	144.1	140.2	135.4
Beef	78.0	76.4	77.1	76.8	78.2	78.1	78.8	78.4	73.4
Veal	1.7	1.5	1.6	1.7	1.6	1.8	1.8	1.9	1.5
Lamb & mutton	1.3	1.4	1.4	1.5	1.5	1.5	1.4	1.4	1.3
Pork	63.7	68.1	64.9	58.5	61.9	61.5	62.0	58.6	59.2
Fish (edible weight)	13.0	12.8	12.9	12.3	13.1	13.7	14.4	14.7	15.4
Canned	4.8	4.5	4.8	4.3	4.8	4.9	5.1	5.4	5.1
Fresh and frozen	7.8	8.0	7.8	7.7	8.0	8.5	9.0	9.0	10.0
Cured	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Poultry products									
Eggs	35.1	34.4	33.5	33.5	33.0	32.9	32.2	31.7	31.6
Chicken (ready-to-cook)	50.3	49.8	51.3	52.7	53.4	55.2	57.6	58.7	62.7
Turkey (ready-to-cook)	9.9	10.5	10.7	10.8	11.2	11.3	12.1	13.3	15.1
Dairy products									
Cheese (excluding cottage)	17.2	17.5	18.2	19.9	20.5	21.4	22.5	23.0	24.0
Fluid whole milk 4/	155.6	147.0	139.6	134.1	130.8	126.6	122.7	115.4	109.9
Fluid lowfat milk 5/	88.1	91.2	92.9	93.1	95.9	99.1	104.6	110.4	113.6
Fluid cream 6/	3.3	3.4	3.4	3.5	3.6	4.0	4.3	4.6	4.7
Yogurt	2.5	2.6	2.5	2.6	3.2	3.7	4.0	4.3	4.6
Ice cream (product weight)	17.3	17.5	17.4	17.6	18.0	18.1	18.1	18.4	18.3
Fats & oils (fat content only) 7/	56.4	57.2	57.7	58.2	60.0	58.6	64.0	64.1	62.7
Butter (product weight)	4.5	4.5	4.2	4.3	4.9	4.9	4.9	4.6	4.6
Margarine (product weight)	11.2	11.3	11.1	11.0	10.4	10.4	10.8	11.4	10.5
Shortening	18.4	18.2	18.5	18.6	18.5	21.2	22.8	22.0	21.3
Lard (direct use)	2.5	2.6	2.5	2.5	2.1	2.1	1.8	1.7	1.8
Edible tallow (direct use)	0.4	1.1	1.0	1.3	2.1	1.7	1.9	1.8	1.0
Salad & cooking oils	20.8	21.2	21.8	21.8	23.5	19.8	23.5	24.1	25.2
Selected fresh fruits 3/	80.8	86.4	83.1	83.7	88.4	87.8	86.3	93.2	98.6
Citrus	23.9	27.9	24.1	23.9	28.3	23.2	22.6	26.6	27.2
Apples	16.8	18.3	16.1	17.1	17.6	17.6	16.6	17.3	20.3
Other noncitrus	40.2	40.2	42.9	42.7	42.4	47.0	47.1	49.3	51.2
Canned fruit 8/	10.9	10.7	10.0	9.7	9.2	8.9	8.5	8.4	8.7
Frozen fruit	1.0	1.1	1.1	1.3	1.2	1.2	1.3	1.4	1.9
Dried fruit	2.3	2.2	2.5	2.7	2.8	2.9	2.9	3.0	3.1
Selected fresh vegetables 9/	71.3	72.8	71.5	74.2	74.7	78.8	78.8	79.9	78.6
Selected vegetables for processing 3/ 10/	106.4	105.2	100.2	98.5	100.4	108.6	104.4	103.4	104.2
Tomatoes for processing 10/ 11/	64.3	63.6	59.3	60.1	60.8	68.4	63.1	63.4	64.6
Cucumbers for pickling 10/	5.9	5.6	5.7	5.7	5.8	5.8	5.8	5.3	5.1
Other vegetables for canning 10/ 12/	21.1	21.4	20.7	19.2	19.0	17.0	18.7	19.0	17.4
Vegetables for freezing 10/ 13/	15.1	14.6	14.6	13.6	14.8	17.4	16.9	15.8	17.1
White potatoes									
Fresh	47.6	49.0	43.8	44.8	47.9	46.8	44.7	47.6	45.1
Frozen	20.7	17.9	19.1	20.1	19.1	20.7	22.0	22.0	23.2
Canned	1.3	1.2	1.1	1.2	1.2	1.1	1.2	1.1	1.1
Dehydrated	1.5	1.3	1.5	1.4	1.4	1.4	1.6	1.5	1.5
Chips & shoestrings	4.1	4.1	4.1	4.2	4.4	4.4	4.3	4.5	4.3
Sweet potatoes 10/	5.2	4.4	4.7	5.4	4.7	4.7	5.3	4.8	4.4
Grains									
Wheat flour 14/	117.2	116.8	115.8	116.7	117.4	118.1	123.3	123.6	128.0
Rice	9.4	9.4	11.0	11.8	9.7	8.6	9.1	11.6	13.4
Pasta	10.2	10.0	10.0	9.9	10.5	11.3	12.9	14.4	17.1
Breakfast cereals	12.9	12.9	13.0	13.1	13.4	14.0	14.4	14.8	15.2
Caloric & low-calorie sweeteners 15/ 16/	134.4	132.8	133.2	132.5	137.4	142.5	149.3	147.7	151.6
Sugar (refined) 17/	89.3	83.6	79.3	73.6	71.0	67.6	63.4	60.8	62.4
Corn sweeteners (dry weight) 15/ 18/	36.3	40.2	44.5	48.1	52.1	57.8	66.5	67.1	68.8
Low-calorie sweeteners 19/	7.3	7.7	8.2	9.5	12.9	15.8	18.1	18.5	19.0
Other									
Coffee	8.6	7.7	7.7	7.6	7.6	7.5	7.6	7.6	7.6
Cocoa (chocolate liquor equiv.)	2.7	2.7	2.9	3.0	3.2	3.4	3.7	3.8	3.9
Peanuts (shelled)	5.9	4.8	5.5	5.9	5.9	6.0	6.3	6.4	6.4
Dry edible beans, peas, & lentils 10/	6.8	5.8	5.8	6.9	7.2	5.5	7.4	7.1	8.3
Soft drinks (gals.)	27.0	27.1	27.1	26.9	26.9	27.2	29.1	30.3	--
Citrus juice (gals.)	5.0	5.1	4.8	5.1	5.6	4.8	5.2	5.6	5.3

1/ Quantity in pounds, retail weight unless otherwise stated. Data on calendar year basis except fresh citrus fruits, apples, peanuts, and rice which are on a crop-year basis. 2/ Preliminary. 3/ Total may not add because of rounding. 4/ Plain and flavored. 5/ Lowfat, skim, buttermilk, and flavored drinks. 6/ Heavy cream, light cream, and half and half. 7/ Includes 80 percent of the product weight of butter and margarine and all of the product weight of other fats and oils, some of which are not reported separately. 8/ Excludes apples, applesauce, cranberries, pineapple, and citrus sections. 9/ Includes asparagus, broccoli, carrots, cauliflower, celery, sweet corn, lettuce, onions, and tomatoes. 10/ Farm weight. 11/ Used in such processed products as ketchup, canned tomatoes, tomato paste, and tomato puree. 12/ Includes asparagus, carrots, green peas, snap beans, and sweet corn. 13/ Includes asparagus, broccoli, carrots, cauliflower, green peas, snap beans, and sweet corn. 14/ White, whole wheat, semolina, and durum flour. 15/ Dry weight equivalent. 16/ Includes edible syrups and honey. 17/ Beginning 1982, includes small amount of refined sugar contained in imported blends and mixtures, including sucrose-dextrose blends, sugar-sweetened tea mixes, and flavored syrups in consumer size containers. 18/ High fructose, glucose, and dextrose. 19/ Sugar sweetness equivalent. Assumes saccharin is 300 times as sweet as sugar; and aspartame, 200 times as sweet as sugar. -- = not available.



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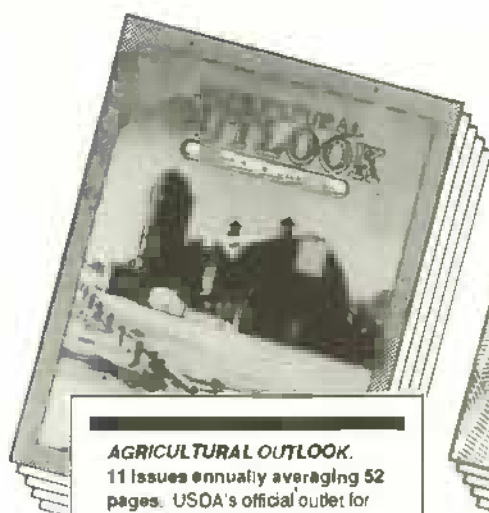
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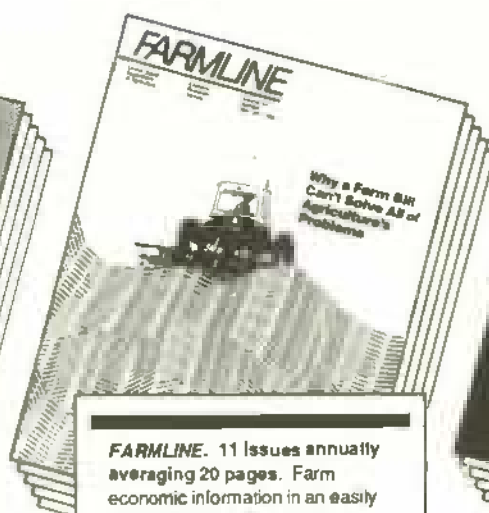
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